

**PRELIMINARY ASSESSMENT
of
UNION PACIFIC RAIL YARD**

OKD987082930

X-ref in SA Vol. 1

**Submitted to EPA Region VI
May 22, 1991**

by

**Oklahoma State Department of Health
Solid Waste Management Service
Technical Programs Branch
Superfund Section
PA/SSI Staff**

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Contributing Investigators:

**Larry O. Popoola, University of Oklahoma Intern
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SUPERFUND FILE

OCT 13 1992

REORGANIZED

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I. INTRODUCTION

The Oklahoma State Department of Health (OSDH) is task by the U.S. Environmental Protection Agency (EPA), as authorized by CERCLA and as amended by SARA, under the Multi-Site Cooperative Agreement (CA# V-00645-01) to conduct a Preliminary Assessment (PA) of Union Pacific Rail Yard (CERCLIS ID# OKD987082930) located 1 mile north of junction US 66 and US 81 in El Reno, Oklahoma (Figure 1). The legal location is SEC05 T12N and SEC32 T13N, R07W IM CANADIAN COUNTY, OK. The coordinates are 35° 33' 48" north latitude and 97° 57' 42" west longitude.

The primary purpose of this PA is to collect information sufficient to support a decision regarding the need for further action under CERCLA/ SARA. The scope of this investigation includes the review of available information from OSDH files, an onsite reconnaissance, the El Reno Roundhouse Area PA, and from a target survey which was performed primarily by using USGS Topographic maps.

II. SITE DESCRIPTION AND OPERATIONAL HISTORY

DEFINITION

The historical general operation of the Union Pacific Rail Yard site is well described by Logan G. McPherson, Lecturer on Transportation at John Hopkins University, in a text published in 1906: "Where traffic is composed of many different commodities cosigned to different destinations, it was essential to expeditious, orderly, and therefore economical movement, that (rail) cars containing like commodities for the same destination be placed together, either in separate trains or in parts of the same train. That cars may be shifted to accomplish this purpose, it is necessary that there be a number of tracks which constitute a 'yard'." (1).

SITE DESCRIPTION

As depicted in Figure 2, the yard investigated in this PA is approximately 65 acres and includes an temporarily inactive painting facility (2,3). Out of the three dozen or so rails that constituted the yard, only one active (revamped) rail runs through the yard and the adjacent roundhouse area (a PA was performed on the El Reno Roundhouse Area by OSDH on August 15, 1990) (4,5).

The yard presently has eight buildings. Six of the buildings are essentially empty and the other two are associated with the painting operation. The yard is surrounded by section and secondary roads. To the east and adjacent to the yard is the US Highway 81 overpass and the roundhouse area. The yard also has underground storage tanks (UST) which a few have already been pulled reportedly by U.S.P.C.I., a subsidiary of Union Pacific Railway. (3).

SUPERFUND FILE

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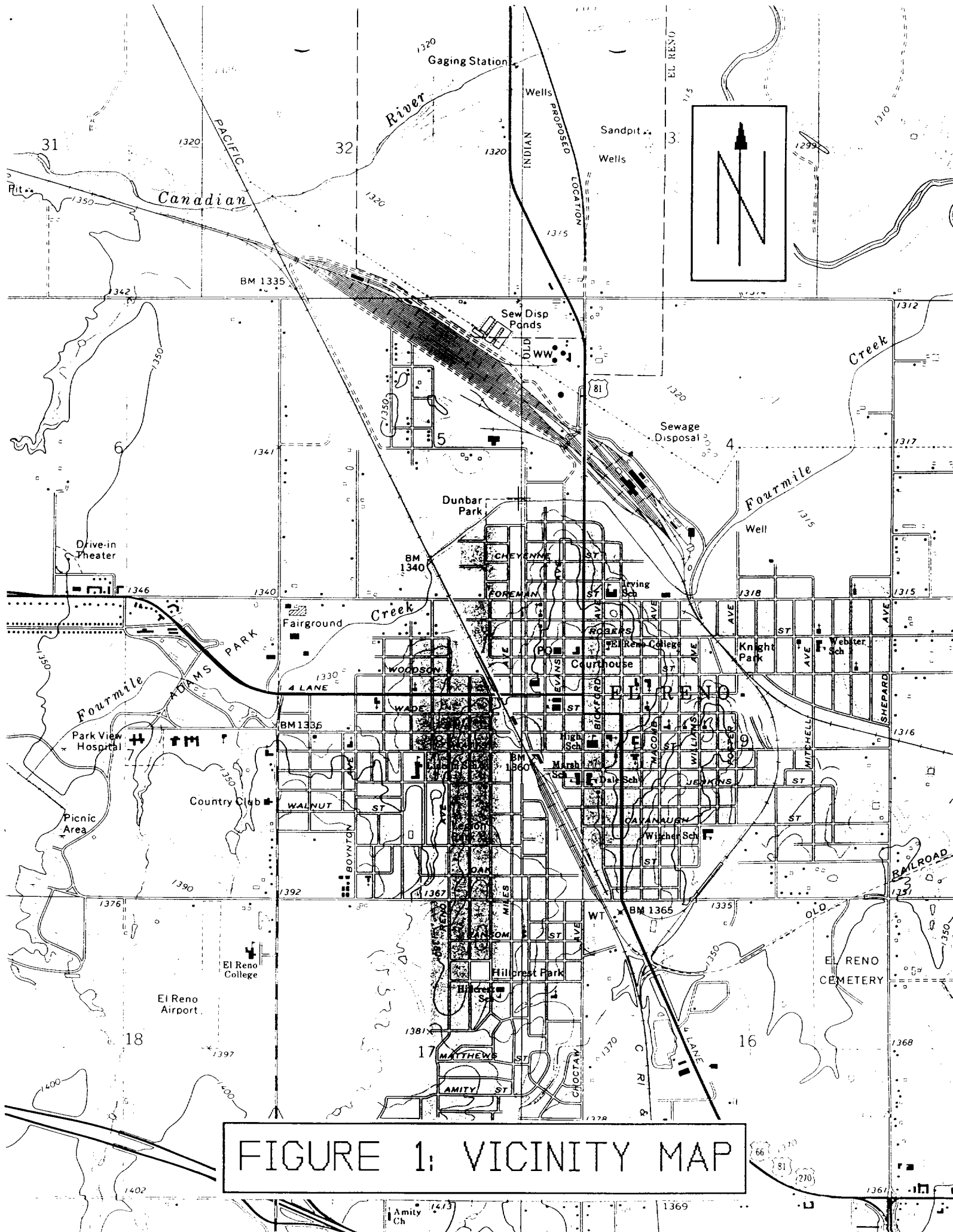
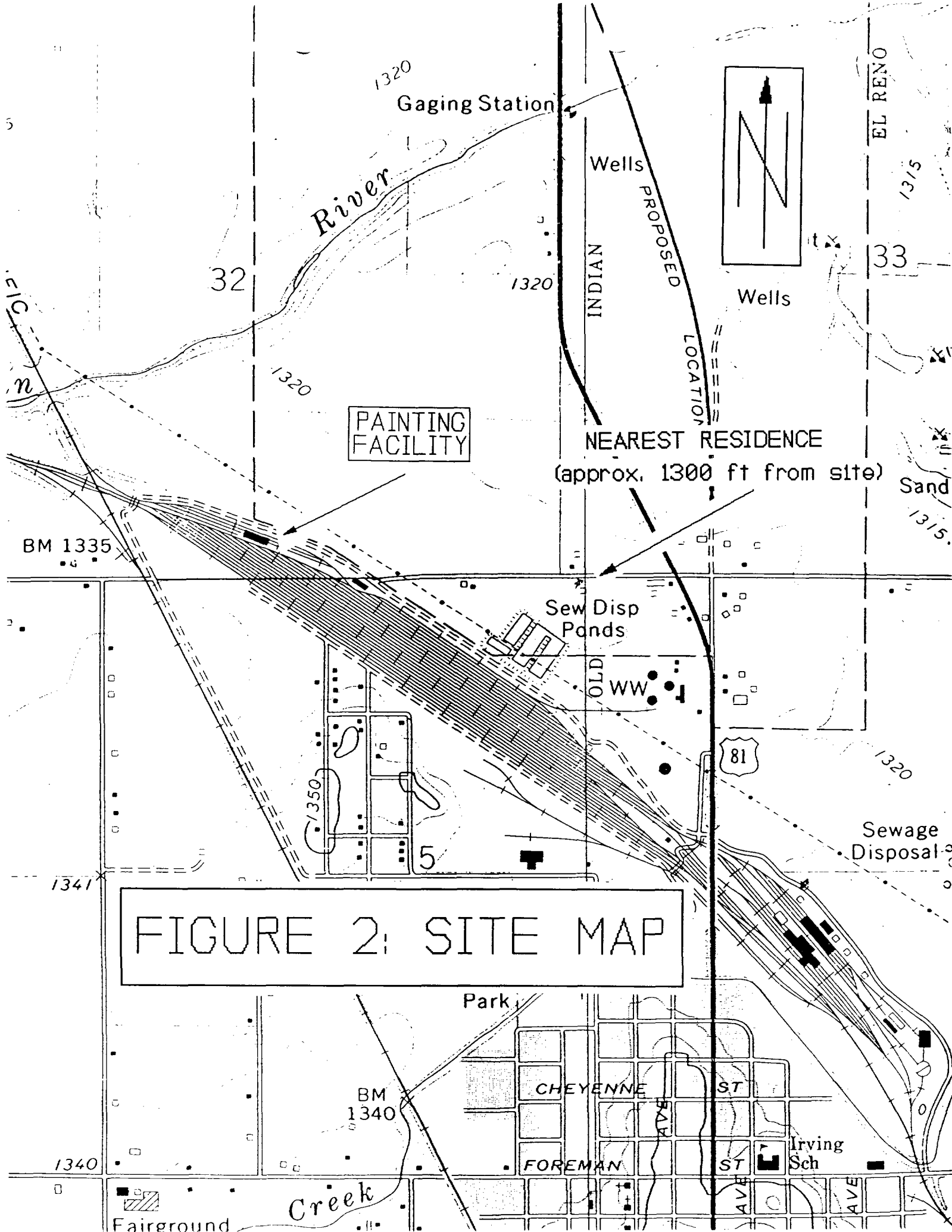


FIGURE 1: VICINITY MAP



Originally, the drainage pattern of the area was northeast (2). However, the yard is surrounded by diversion ditches which directs surface water flow to the northwest into the North Canadian River, located just within 1/4 mile west of the eastern terminal of the yard (2,3). A more detailed and comprehensive description of the present condition of the yard is provided in the onsite reconnaissance memorandum in the reference section of this report (3).

Adjacent and north of the yard are wastewater lagoons, an empty one million gallon above ground storage tank (AST), a freight car repair and custom welding operation owned by Sunbelt Railway Services Inc., and agricultural/livestock parcels. Within 1/4 miles north of the yard and west of the wastewater lagoon is the City of El Reno (drinking) water treatment plant. Adjacent and south to the rail yard is a pipe yard, residences, and agricultural parcels. (3). The City of El Reno public water supply wells are within a mile northeast of the site and serves approximately 15,000 people, which include most residences (and industries) surrounding the yard (2,6).

Occasionally, the rail yard is visited by an Union Pacific Railway crew (4). Even though the painting facility is temporarily inactive, it is expected to be in full operation again very soon (7). The section and secondary roads which surround the site are used by employees of the neighboring industries (3). The site is unsecured and is occasionally visited by the public (3).

OPERATIONAL HISTORY

The rail yard had been purchased by Oklahoma Department of Transportation (ODOT) in October 21, 1982 and is presently leased to the Union Pacific Railway (4,8). The painting facility located onsite is currently operated by R. T. Nelson Painting Service, Inc. (7). The large AST is presently owned by Donald D. Feddersen of El Reno (8). The wastewater lagoons are reportedly owned by R. T. Nelson (Painting Company) of Oklahoma City (3).

The large lagoons were apparently used to receive waste from the sumps located in the fueling and rail car cleaning areas of the yard (3,4). The lagoon may have also received sewage from all onsite buildings and onsite stockyard pens, and received industrial wastewater from the onsite painting facility. The large AST was apparently used to store diesel used to fuel the engines (3).

Generally, the Rock Island Line had owned the rail yard and adjacent roundhouse area since 1936, but went bankrupted in the early 1980's (4,9,10). ODOT purchased the practically abandoned yard and a portion of the roundhouse area during the auctioning of the bankrupt railroad to assure continued rail service which transports the harvested Oklahoma wheat to available markets (4). Before 1936, the Chicago, Rock Island, and Pacific Railroad (CRI&P) generally had owned the site (9,10). In 1889 through 1890, a subsidiary of CRI&P constructed the rail yard in El Reno to provide service from the Kansas state line to Minco, OK (10).

The significant substances of concern in this investigation are the contents of wastewater lagoon sediments and the wastes associated with the painting facility. It is unknown if hazardous substances have been discharged into the lagoons, however, the lagoons were constructed in the mid 1960's to prevent further discharge of wastewater into the North Canadian River. It was suspected that the discharges were causing fish kills. (4). The lagoons are approximately six acres in surface area and is surrounded by 4 to 5 feet tall berms (2,8).

The onsite painting facility has been temporarily inactive since the end of April 1991 and is expected to be in full operation again in the very near future (7). The facility was operated by R. T. Nelson Painting Services, Inc., and is a government contractor which resurfaces airfield matting for the U.S. Armed Forces. The operation has been present for three years and receives airfield matting which is made of aluminum and uses a steel grit to blast the paint residues and surface coatings from old mattings which subsequently are repainted. (11). While the facility was active, the blasting process generated approximately 10 to 15 cubic yards of spent material daily which was transported by Laidlaw to the Canadian County Solid Waste Disposal Authority Landfill (OSDH# 3509005, Type II Municipal Disposal Facility) (11,12).

The facility had used xylene and methyl ethyl ketone (MEK) as solvents to clean the paint spraying equipment. Sludges from the spent solvents were also collected in dumpsters and disposed with the spent metal blasting material. The liquid fractions were reused or were left to evaporate. Facility records had indicated that the operation had used 100 gallons of xylene and 36 gallons of MEK per month. (11). According to OSDH, this facility was a conditionally exempt small quantity generator of hazardous waste (13). Additionally, the analysis of the spent metal blasting material did not exceed the EP Toxicity limits (13,14). However, at the time of the investigation, the TCLP rule had not yet been implemented, therefore, TCLP results are not currently available for this material (13,15).

At the time of the recent onsite reconnaissance, a 10 ft² pile and 1000 ft² of contaminated soils, containing spent metal blasting material, was observed adjacent and north of the facility. Additionally, a few opened drums and a couple of opened dumpsters were observed and paint solvent odors were detected in this same area. On the west side of the facility, 20 - 30 drums were also seen. Most of these drums were unlabeled and several were opened, and possibly contained the spent blasting material and paint sludges. (3).

A couple of years ago, a percolation test was performed to determine if the soils were suitable for a subsurface sewage lateral line system for the painting facility. This was performed just north of the painting facility and south of the diversion ditch. While excavating below the surface, the county sanitarian encountered an oily and odorous sludge. Because of this, the lateral lines had to be installed a little further east than planned. It is unknown if the current painting operation had contributed to this buried waste (12).

As determined so far, the other regulatory agencies which had been involved with the painting facility were the Oklahoma Department of Labor, the State Insurance Fund, and the Department of Defense (16). Additionally, an undetermined regulatory agency must have required and approved the installation of the wastewater lagoons in the mid 1960s. As indicated by a historical blueprint of the rail yard, the lagoons had an identification number: 66-67 A.F.E. 67-138, which is unrecognizable by the OWRB or OSDH personnel. (4).

III. PATHWAY/ ENVIRONMENTAL HAZARD ASSESSMENT

GROUNDWATER

The substances of concern in this pathway are the unknown contents of the wastewater lagoon sediments and the oily sludge buried north of the painting facility. It is unknown if the lagoons are lined.

The aquifer of concern is the Terrace Deposits of the North Canadian River which consists of Pleistocene, aged sands, silts, clays, and lenticular beds of gravel of 1 to 100 feet of thickness. This unit may occur at the surface unless overlain by recent and compositionally similar alluvial deposits. Both units (terrace deposits or alluvial deposits) have a very high hydraulic conductivity of 10^{-2} cm/sec and the water table may be encountered as shallow as 5 feet (5,17). The general groundwater flow direction at the yard is toward and with the North Canadian River, i.e. generally northeast (5). The average annual precipitation is 31 inches and the mean annual lake evaporation is -61 inches yielding a net precipitation of -30 inches per year (18).

As based on the above information, there is a suspected release into the ground water. There are public water wells located within a mile northeast of the lagoons which serves the City of El Reno (2,6). Additionally, the City of Concho has wells located just within 4 miles northwest of the yard (6).

The yard is surrounded by residences, industries and agricultural/livestock parcels which some have private wells (6,19). The estimated number of total primary targets via this pathway is described below. The nearest residence with a private well is approximately 1/4 mile northeast from the lagoons, with an estimated population of 2.51. (6).

<u>Distance from Source (mi)</u>	<u>Estimated Population Served By:</u>	
	<i>Public Wells</i>	<i>Private Wells Only</i>
0 - 1/4	0	30
1/4 - 1/2	0	57
1/2 - 1	15,000	55
1 - 2	0	100
2 - 3	600	20
3 - 4	0	133
<i>Total for each Type of System</i>	<i>15,600</i>	<i>445</i>
<u>Total Ground Water Users</u>		<u>16,045</u>

It is unknown how many residences served by public wells may also have private wells.

SURFACE WATER

The substance of concern in this pathway is the unconfined pile and contaminated soils containing metal blasting metal particulates which were adjacent to the painting facility. Additionally, the buried oily sludge which is adjacent to a diversion ditch, has the potential to leach, and therefore, discharge offsite.

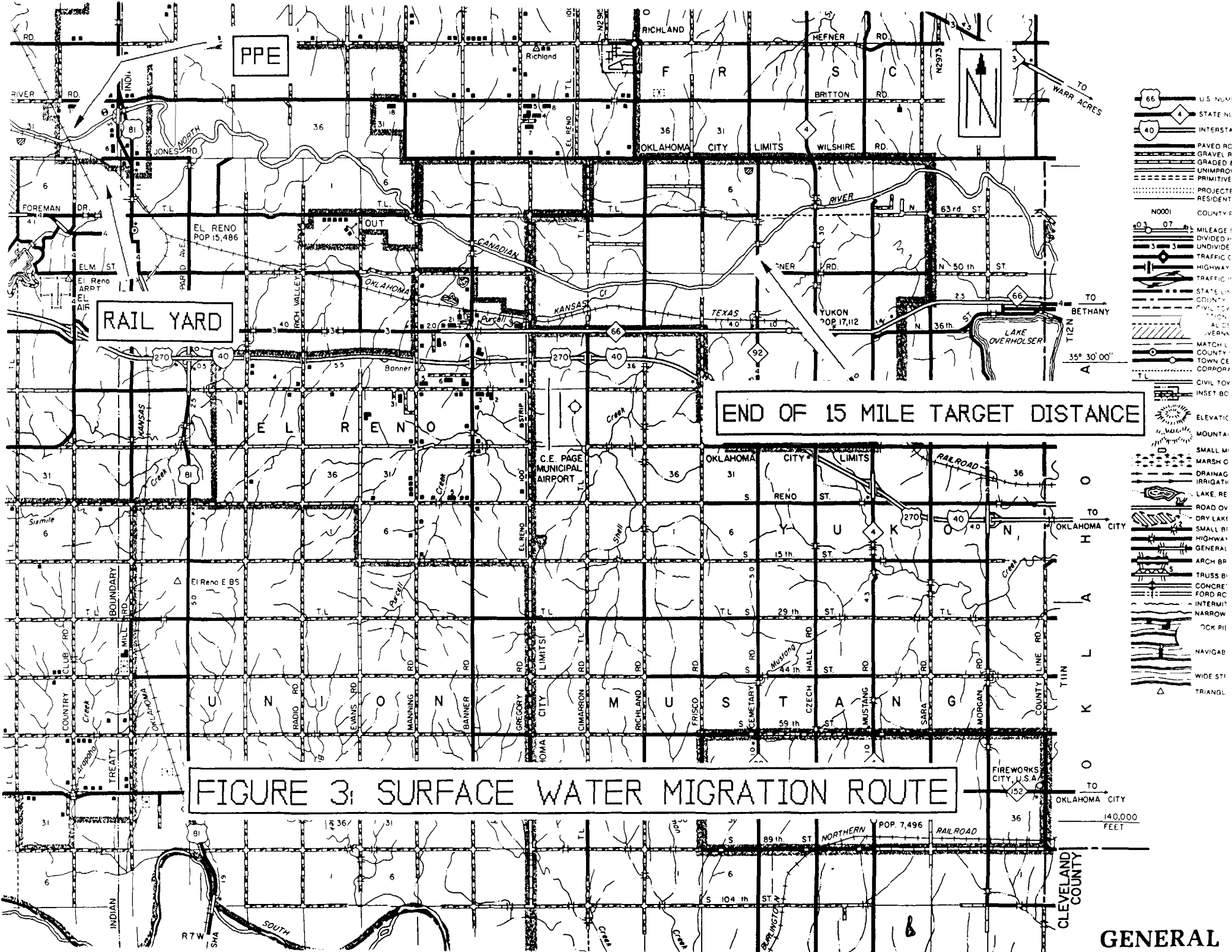
As depicted in Figure 3, the run off from this area enters the diversion ditches either north or south of the facility, which flow approximately 1/2 mile north-northwest to the probable point of entry (PPE) on the North Canadian River. The river generally runs east-southeast and the 15 mile target distance ends approximately at Cemetery Road, which is 11 miles straight east of US Highway 81. (20). The average annual stream flow for the river is 240 - 273 cubic feet per second at El Reno (17,21). The yard is just outside of the 100 year flood plane (22).

Based on the above information, there is a suspected release into the surface water. According the OWRB, there are no drinking surface water intakes and only three irrigation intakes within the 15 mile target distance (23). Therefore, it is not suspected that people may be exposed from drinking surface water from the North Canadian River. However, the river is considered a primary fishery, and the yard's operation has been suspected of causing fish kills (3,4).

The primary sensitive environments that are present on or adjacent to the 15 mile in-water segment are the wetlands associated with the river and possibly the habitats of endangered/threatened species listed below (24).

SPECIES	FEDERAL STATUS
Black-capped vireo	Endangered
Interior least tern	"
Piping plover	Threatened
Whooping crane	Endangered
Bald eagle	"
Peregrine falcon	"
Prairie mole cricket	Proposed Threatened
Arkansas River shiner	Candidate
Arkansas River speckled chub	"
White-faced ibis	"
Ferruginous hawk	"
Long-billed curlew	"
Western Snowy plover	"

As determined so far, there isn't any specific documentation that the habitats of above species occur on the 15 mile target distance, but only in portions of Canadian County (25).



PPE

RAIL YARD

END OF 15 MILE TARGET DISTANCE

FIGURE 3: SURFACE WATER MIGRATION ROUTE

- U.S. HIGHWAY
- STATE HIGHWAY
- INTERSTATE
- PAVED ROAD
- GRAVEL ROAD
- GRADED ROAD
- UNIMPROVED ROAD
- PRIMITIVE ROAD
- PROJECTED ROAD
- RESIDENTIAL ROAD
- COUNTY ROAD
- NO. 0001
- 0.5 MILE
- 0.25 MILE
- UNDIVIDED
- TRAFFIC CONTROL
- TRAFFIC CONTROL
- STATE HIGHWAY
- COUNTY HIGHWAY
- CIVIL TOWN
- ALICE
- VERNA
- MATCH LINE
- COUNTY
- TOWN
- CORPORATION
- CIVIL TOWN
- INSET BOX
- ELEVATION
- MOUNTAIN
- SMALL MOUNTAIN
- MARSH
- DRAINAGE
- IRRIGATION
- LAKE, RESERVOIR
- ROAD OVER
- DRY LAKE
- SMALL BRIDGE
- HIGHWAY
- GENERAL
- ARCH BRIDGE
- TRUSS BRIDGE
- CONCRETE
- FORD ROAD
- INTERMEDIATE
- NARROW
- DOCK PIER
- NAVIGABLE
- WIDE STREET
- TRIANGLE

GENERAL

AIR

The substances of concern via these pathways are air-born unconfined spent metal blasting particulates, and volatilized solvents (MEK and xylene) and paint sludges which all are associated with the painting facility.

The metal blasting particulates in the pile and soils may have significant migration potentials simply because these sources are not sheltered or housed from the wind, therefore, possibly traveling a significant distance from the yard. The paint solvent wastes are volatile, and consequently, a strong odor described as solvents were noted during the recent site reconnaissance. (3,11).

Based on the above information, there is a suspected air release. The nearest residence to the yard is within a 1/4 mile northeast of the site with an estimated population of 2.51 (26). It is estimated that there are 23 workers onsite, and 57 workers in the neighboring industries of the yard, i.e. within a 1/4 mile (7,19). The estimated population within 4 miles from the yard is described below (26).

<u>Distance from Source (mi)</u>	<u>Estimated Population</u>
0 - 1/4	70
1/4 - 1/2	1520
1/2 - 1	3780
1 - 2	7600
2 - 3	1530
3 - 4	800
TOTAL	15300

There are no fisheries located onsite (3). The North Canadian River, Fourmile Creek and Lake El Reno is located within a 1/4, 1 and 3 miles, respectively, from the yard, and are considered as primary fisheries (2). There does not appear to be any wetlands onsite, however, wetlands are suspected to be associated with the above primary fisheries (19). There isn't any documentation that the endangered or threatened species have been observed onsite or within 4 miles of the site (25).

SOIL EXPOSURE

The substances of concern via these pathways are the wastes associated with the painting facility, i.e. paint sludges, spent metal blasting material, and solvents (MEK and xylene).

There are essentially no restrictions to the site either via motor vehicle or on foot (3). There are 23 workers onsite, and an estimated 33 workers from the adjacent industries that may occasionally work within 200 feet of the yard (7,19). The onsite population, and the number of residences within 200 feet from the yard is believed to be zero (3). There are no fisheries or endangered/threatened species sited within or 200 feet from the yard (25).

IV. SUMMARY

A rail yard was built in El Reno, Oklahoma in ¹⁹⁸⁹1989. On this yard is an temporarily inactive paint facility, and adjacent to the yard is a 6 1/2 acre wastewater lagoon system. In the early 1980's, the railroad went bankrupt and ODOT purchased the yard. ODOT currently leases the yard to Union Pacific Railway Company. The R. T. Nelson Painting Service, Inc., company currently operates the painting facility and possibly owns the lagoon system. Potential contaminants of concern include the unknown components in the lagoon sediments, and the metal blasting material (possibly containing lead), paint sludges and solvents (MEK and xylene) which are associated with the painting facility. There is also some buried oily sludge near the painting facility. There is analytical data characterizing the metal blasting material, however, a TCLP analysis was never performed. Toxicity and mobility of all substances of concern cannot be accurately established without further sampling and analysis. The groundwater pathway is of great concern because of the close proximity of a significant number of public and private shallow wells, which serve approximately 16,000 people. The soil exposure and air pathways are also of significant concern due to the questionable waste handling practices of the painting facility. The yard is unsecured and there are a significant number of workers onsite and adjacent to the yard. The nearest residence is about 1300 feet from the yard and over 5000 people live within one mile from the yard. The surface water pathway could also be of some concern because of the past fish kills in the North Canadian River. There is not any documented sitings of endangered or threatened species, but there are primary fisheries and wetlands within the area of interest.

V. PHOTODOCUMENTATION LOG



Photographer/ Witness *Matt Biddle*
 Date/Time/Direction *2-13-91/South*

Comments: *Abandoned Union Pacific Railway engine*



Photographer/ Witness *Matt Biddle*
 Date/Time/Direction *2-13-91/South*

Comments: *Pile and contaminated soils containing spent metal blasting material. North side of painting facility.*



Photographer/ Witness *Math Biddle*
 Date/Time/Direction *2-13-91 / East*

Comments: *yard's northern access road with abandoned pump house to the left which provided pressured water to the freight car cleaning area to the right.*



Photographer/ Witness *Math Biddle*
 Date/Time/Direction *2-13-91 / South*

Comments: *Pulled 45T, probably used for fueling the diesel engines.*



Photographer/ Witness *Math Biddle*
 Date/Time/Direction *5-13-91 /west*

Comments: *Picture taken of yard from 215 81 overpass.*



Photographer/ Witness *Math Biddle*
 Date/Time/Direction *5-13-91 /South*

Comments: *Adjacent pipe yard "Encoat"*



Photographer/ Witness *Math Biddle*
Date/Time/Direction *5-13-91 / South*

Comments: *Tank cars containing Phosphoric acid as labeled*

Photographer/ Witness
Date/Time/Direction

Comments:

VI. LIST OF REFERENCES

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4. Richard L. Brooks, Sr. Env. Spec. *Record of Communication: Discussion with O.D.O.T. about Rail Yard*. May 10, 1991.
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22. Federal Emergency Management Agency. *Flood Prone Area Map El Reno, OK. Quadrangle*. 1972
23. Larry Popoola, University of Oklahoma Intern. *Memorandum: Union Pacific Rail Yard Surface Water Pathway Targets*. May 20, 1991.
24. U.S. Fish and Wildlife Service. *Oklahoma Federal Listed and Proposed and Candidate Threatened and Endangered Species*. Tulsa, OK. June 1990.
25. Larry Popoola, University of Oklahoma Intern. *Record of Communication: Oklahoma Biological Survey's Information of Rail Yard*. May 16, 1991.
26. Larry Popoola, University of Oklahoma Intern. *Memorandum: Union Pacific Rail Yard Air Pathway Targets*. May 20, 1991

VII. REFERENCES

REFERENCE 1

THE
WORKING
OF THE
RAILROADS

McPHERSON

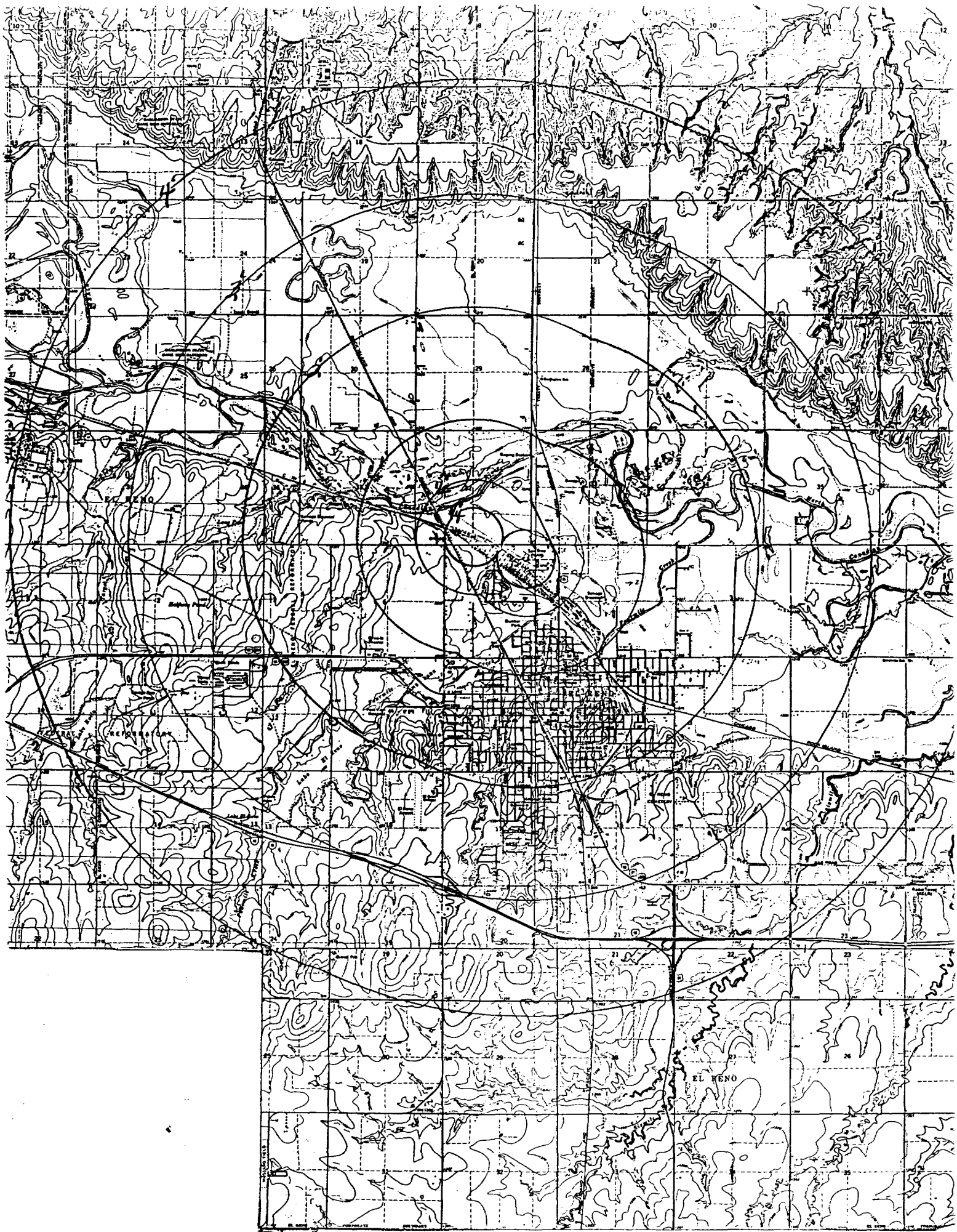
THE WORKING OF
THE RAILROADS
McPHERSON

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HENRY HOLT
AND COMPANY

REFERENCE 2



REFERENCE 3

MEMORANDUM

DATE: MAY 14, 1991

TO: UNION PACIFIC RAILYARD FILE

FROM: SCOTT A. THOMPSON SAT
ENV. SPECIALIST SUPERVISOR

**RE: RECON OF THE UNION PACIFIC RAILYARD SITE IN EL RENO,
OKLAHOMA.**

This memorandum is to serve as a record of the site reconnaissance of the Union Pacific Railyard (UPRY) Site in El Reno, Oklahoma, conducted on May 13, 1991, by the Oklahoma State Department of Health (OSDH). The site log was recorded verbally on a microcasstte and this memorandum has been drafted from the tape.

Arrived at the Site 9:56am on Monday May 13, 1991

Weather Conditions - slight winds, warm, humid, fairly clear, no precipitation.

Participants: Richard Brooks, OSDH
Scott A. Thompson, OSDH
Bruce Vande Lune, Canadian County Health
Department

Photographer for all photographs was Scott A. Thompson

Photo #1

Direction: west

Time: 9:59am

Comments: From top of old Rock Island Yard Office building,
general site view.

Photo #2

Direction: southwest

Time: 10:00am

Comments: From top of old Rock Island Yard Office building,
general site view.

Photo #3

Direction: south

Time: 10:00am

Comments: From top of old Rock Island Yard Office building, general site view.

Photo #4

Direction: southeast

Time: 10:00am

Comments: From top of old Rock Island Yard Office building, general site view.

Photo #5

Direction: east

Time: 10:00am

Comments: From top of old Rock Island Yard Office building, general site view. Towards the bridge and the El Reno Roundhouse Site. There is no physical barrier between the two sites. Several roads connecting the two sites run under the bridge.

Photo #6

Direction: northeast

Time: 10:00am

Comments: From top of old Rock Island Yard Office building, general site view.

Photo #7

Direction: north

Time: 10:00am

Comments: From top of old Rock Island Yard Office building, general site view.

Photo #8

Direction: northwest

Time:

Comments: From top of old Rock Island Yard Office building, general site view.

10:13am

Brick manhole apparently for access to several pipes (maybe sewer system), at least 3 pipes run from it that appear to transport water. One other smaller pipe. Surrounded by a metal box with lid that is ajar. It is located just southwest of the Rock Island Yard Office. A photo may have been taken of this but was

not recorded on the site log. If it is determined that a photo was taken of this a Photo # and a description will be assigned and added to the end of this document.

Approximately 100 yards due west of Rock Island Yard Office are some rusted metal diesel heaters and next to them is a PVC pipe (4 inch diameter) protruding from the ground thru a concrete slab. This could be a monitor well but it is uncapped and generally in poor condition and may have a coke bottle in it.

Due north of the PVC pipe is a large round silver colored petroleum storage tank, estimated volume is 1,000,000 gallons. It is open and empty. It was apparently associated with petroleum fuel unloading from railcars.

Photo #9

Direction: north

Time: 10:20am

Comments: Picture of large petroleum storage tank. Also in photo should be an old tank car which appears to have been used as a UST and recently removed from the ground. A small metal building is also visible and it apparently houses part of the petroleum fuel unloading apparatus. In the background a tall white or gray building is the El Reno Drinking Water Treatment Plant.

Immediately west of the PVC pipe and heaters is a small building made from an old boxcar. This is empty except for one small drum (approx. 30 gallons). The drum appears to be empty but the bungs are closed. The drum is labeled as being from Specialty Chemical Company El Reno, Oklahoma 73036. There is some writing on the wall inside the building: Several names of persons who were apparently former employees of Rock Island are listed Harry Grape, Bob Havener, Harlan Grape, Herman Mehan, Mike Armstrong. Also written on the wall is "Closed Rock Island out 3/29/80" It looks like the original date was 1/5/80 and 3/29/80 was written over it.

West of the railcar building is a stained soil area with a grate in the ground and a 55 gallon drum. This area and the drum are covered with oily waste.

In the fueling area just south of the large silver petroleum storage tank. There is an apparent UST which is still in the ground and is labeled with green spray paint "1/29/91 #8 El Reno, OK". Piping is visible inside this tank and it is open and appears to contain little or no liquids or sludges. Soil surrounding the tank is disturbed and there is no vegetation growing on it. In the immediate vicinity is a sign which says "NO SMOKING".

Two drums lying on their sides west of the UST labeled #8. They appear to be empty and in poor condition. No visible labels.

There is an old railcar lying on the surface which appears to have been used as a UST and recently removed from the ground. There is dirt clinging to the exterior. It is open and a mild petroleum odor is associated with it. It is also labeled with green spray paint "1/29/91 #9 El Reno, OK". This tank is the one described in Photo #9 above.

Small building in the fueling area contains pumping and metering equipment. One sign says "Use this pump to unload fuel". Another sign says "Put invoice number on meter ticket". Third sign says "Truck drivers fill out and use Rock Island meter tickets do not unload without using meter tickets. If any malfunction of meter occurs contact diesel office. Leave two copies of meter ticket with manifest, carriers copy may be retained for your records."

At approximately 10:40am an individual drove up to us in a pickup truck and we introduced ourselves. He identified himself as Mr. John Henson. We informed Mr. Henson of our investigation of the site. He operates a small company, Sunbelt Railway Services Inc., on the northern border of the site and he provided some information about the site.

R.T. Nelson of Oklahoma City may have a lease on the Waste lagoons on the north side of the tracks. RT Nelson Painting Co.

Large round silver petroleum storage tank belongs and the property around it belong to Don Fetterson of El Reno, Oklahoma.

Mr. Henson's company does freightcar repair and custom welding.

Sunbelt Railway Services

Plant location HWY 81 North El Reno, Ok. on UP Railroad

PO BOX 1084

El Reno, OK 73036

Business Phone (405)262-2001

Home Phone (405)262-5461

Mr. Henson also informed us that United States Pollution Control Inc (a subsidiary of Union Pacific) and been out on the site removing the old underground storage tanks because they thought Union Pacific owned the site. Mr. Henson said that they actually had pulled the UST #8 out of the ground and then put it back when they found out that Union Pacific did not own the site. That explains the disturbed soil around the tank.

A closer look at the large round silver petroleum storage tank revealed an empty drum within the tank berm. The tank berm is large and in good condition and there is a little water in the bottom. Some piping appears to run from the tank to the metal building which was used for unloading fuel from trucks. The tank is open and appears to be empty, some garden hoses are hanging out of the opening near the bottom of the tank.

There were a couple of old engines apparently abandoned on the rails on the site.

Immediately south of the wastewater lagoons is an area that was apparently used for railcar washing. There are two parallel sets of tracks on a concrete pad. Between the tracks is a grate set into the concrete pad which is apparently a sump to catch the wash water. There are pipes running on the inside of each rail of both pair of tracks. The purpose of the pipes is unclear.

Also in this immediate vicinity is a small metal building (I will refer to it as the railcar washing building) which contained some electrical switches and some equipment which might have been some type of pressure pump. A 5 gallon container (looks like a metal gas can) is in the building and it contains some unknown substance.

West of the rail car washing building is a concrete basin. It is approximately 8ft. wide and 18 ft. long and is approximately 6 to 8 feet deep. It contains some metal grates and there is one large diameter opening which appears to be a pipe entering from the south (probably from the sump in the concrete pad). Another large diameter opening is on the northwest side of the basin near the bottom. It may be a pipe exiting the basin and it appears to go directly west. Several yards further west is a galvanized culvert (it contains water) sticking vertically out of the ground, which may be an access to the pipe coming west out of the basin. Next to the concrete basin on the north side is a manhole which extends vertically out of the ground a few feet. It is made of concrete and is locked. On the east side of the concrete basin is a pipe in the ground of some sort it is open now but the cover is lying beside it and says "water". On the site maps the concrete basin is referred to as the "wet well".

Photo #10

Direction: north

Time: 11:07am

Comments: Concrete basin, manhole and pipe on northside of rail-car washing area.

Northwest of the concrete basin is an area utilized to graze sheep. There are couple of old (apparently unoccupied) buildings. There is also a small roughly triangular pond and there are a pair of mallard ducks on it (a drake and a hen). They may have a nest near the pond.

11:10am

Standing next to a blue and white cinder block building which is empty and abandoned. Southeast of this building are 9 tank cars which are hooked together. They appear to be old and several of them are labeled "Phosphoric Acid" Some of the labeling on the cars indicates some are rubber lined. Several of the tanks are labeled "Farmland Industries lessee". Second tank from west says "Title to this car is vested in a trustee under an equipment trust agreement recorded in section 20 C of the interstate commerce act". Some dates on the two western most cars in this group are 7/83 and '85. No leaks were observed from the tanks.

In the blue and white cinder block building are several swallows (they may be nesting) and a chalk board with the names of some possible former employees: R. Whittle, G. Rickner, Mowery, B.

Krume, J. Ryba, W. Garret, C.H. Nail, Gragg, Russell, W.E. Novak, several names unreadable, Myers, Stool, Bectel Jr., Phelps, Nelson, Wyckel, Urton, Keller.

Adjacent to the blue and white cinder block building on the west side is a UST which has been removed from the ground. It is not an old tank car but a more standard metal tank and it is several hundred gallons in volume. It is also labeled with spray paint "1/29/91 #7 El Reno, Ok."

Photo #11

Direction: west

Time: 11:15am (estimated)

Comments: View of a large grey metal building surrounded by a cyclone fence topped with barbed wire. May be called a materials yard. There is a great deal of metal material neatly stacked inside the fence.

This area looks to be well maintained and it appears that it could still be somewhat active although no activity or workers were observed. There are a couple of signs referring to trucks unloading and loading on the east side of the fence. There are some smaller but relatively new looking "no trespassing" signs on the cyclone fence itself. There is a very large catfish head (looks like a Flathead) hanging from the corner of the cyclone fence. This could be evidence of fishing in the North Canadian River in the vicinity of the site. Catfish of this size are often caught by noodling (that is by hand) during this time of year. If people are noodling in the river or its tributaries that means they are wading and perhaps diving underwater as well as consuming fish.

11:40am

There is a mobile home inside the cyclone fence. On the north side of the large grey metal building is an area of stained soils, not enclosed by the cyclone fence. A piece of equipment associated with the stained soils it probably says "Port Shot-blast Cleaning Nelco Manufacturing Oklahoma City". There is some grey material lying under and around this piece of equipment which is grey to reddish fine to coarse particulates. There are seven drums in this area and a couple of large metal bins. The drums are not sealed and some contain liquids and semi-solids which resemble paint wastes. There is a slight paint odor asso-

ciated with the drums. There is a small fence around a relatively small hole. There is a pile of apparently empty drums on the south side of the large grey building.

To the west of the large grey building is an area with scrap metal and wood. There are several drums in this area which are open and contain solid material. Some drums contained rust colored materials and some contain greenish materials. Most of the drums are not sealed but a couple are and one drum has "car oil" written on it. Another drum says "ARCO AR 45". Some other drums have some dates from 1989 on labels.

Photo #12

Direction: east

Time: 11:42am

Comments: View of the drums of solid green and rust materials near scrap piles.

On the southern boundary is a rail which appears to be active. Union Pacific is believed to be leasing and operating this track. There are many cars on the tracks in this area which appear to be simply parked for a short duration. None were observed to be leaking.

The land use to the south of the site is agricultural and rural residential. On the south of the site near the western end is a small wetland. It is inhabited by some red-winged backbirds. It is estimated to be less than 1 acre.

The drainage ditch on the south side of the site appears to flow to the west. However, there was not any water in it at the time of the recon.

There are many small cottonwood and willow trees growing south of the rail car washing area, but there is no standing water.

Found another basin or sump on the northside of the railcar washing area. It appears to be older than the other basin on the south side of the railcar washing area. It is partially filled with soil and debris.

A partial view of the east end of the lagoons was obtained and no standing water was observed. The dikes are well vegetated and appear to be intact.

Three persons (a male and two females who appear to be private citizens) were observed loading railroad ties into an El Camino under the Hwy. 81 bridge.

Access to the majority of site is not restricted and much of it can easily be driven to.

We departed the site at 12:22pm on May 13, 1991.

REFERENCE 4

RECORD OF COMMUNICATION	Discussion	
TO: Union Pacific Rail Yard file	FROM: Richard L. Brooks <i>RLB</i> Sr. Environmental Spec.	DATE: May 10, 1991
		TIME: 1400-1615

SUBJECT: Communication with Ken Kouba, Rail Planning, ODOT

SUMMARY OF COMMUNICATION: According to Mr. Kouba, the railyard north of El Reno was purchased by ODOT in the yard and roundhouse area. He also stated that Union Pacific Railway subleases the painting facility.

ODOT purchased the yard and roundhouse area during the auctioning of the bankrupt Rock Island Line to guarantee the continued service of transporting Oklahoma wheat to available markets.

Mr. Kouba had worked for the Rock Island Line at the yard in the mid 1960's and he stated that some regulatory agency required the railroad to construct and utilize the wastewater lagoon because it was speculated that the yard activities, such as cleaning rail cars harboring grain, was causing the fish kills that were occurring in the North Canadian River. He further stated it was eventually discovered that the railroad did not cause the fish kills.

He also stated that a small crew occasionally visits the site to maintain the active rail and to reconstruct the other rails.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

Will include the above information in the PA investigation of the railyard.

REFERENCE 5

**OKLAHOMA STATE DEPARTMENT OF HEALTH
PRELIMINARY ASSESSMENT REPORT**

Date: 27 July 1990

Prepared by: Matthew D. Biddle
Environmental Specialist
Oklahoma State Department of Health

Site Name: El Reno Roundhouse Area

Address: US 81 North, El Reno, OK

EPA ID#: Not yet assigned

1. Site Information:

The "El Reno Roundhouse Area" is an approximately 80 acre site which began operation at least a century ago and is part (east half) of the former Chicago, Rock Island, and Pacific Railroad (The Rock Island Line) El Reno, Oklahoma Yard. It is located on the Northern fringes of the City of El Reno on the East side of US Highway 81 and South of the North Canadian River. The coordinates are 35°32'30" North latitude and 97°57'20" West longitude. The legal description is SW4SEC04T12NR07WIM Canadian County, Oklahoma. Various site location maps and aerial photographs are attached.

The Rock Island Line went bankrupt and ceased operations in the early 1980's and the property was divided among many trustees. The land was divided up and the various parcels of land were bought and re-sold by various holding companies. The only identified current site owners are the Central Oklahoma Railroad Company and the State of Oklahoma Department of Transportation. It is unknown if any other land holders are involved at this time. Prior to the Rock Island bankruptcy, the site ownership changed many times, but the different rail companies noted were simply previous subsidiary names or small companies which were later obtained by the Chicago, Rock Island, and Pacific Railroad. For the chronological history of the land ownership, please see attachment #33 in the references section.

The purpose of the investigation was to conduct a Preliminary Assessment under the Multi-site Cooperative Agreement as directed by the Comprehensive Environmental Response, Compensation, and Liability Act and the Superfund Amendments and Reauthorization Act to determine the presence of any hazardous wastes at the site.

2. Background/Operating History:

The El Reno railyard covers an additional 100 acres or so on the West side of US 81, but OSDH chose to focus the investigation on the East side only, concentrating at this time, on the former roundhouse site where heavy maintenance likely occurred. Also weighing in this decision was the fact that the West side yard has largely been taken over by other industries including Union Pacific Railway. During the field investigation, evidence of significant environmental problems on the West side was obtained indicating a need for PA/SI attention. OSDH plans to submit a Site Discovery form for the West side.

It remains specifically unknown as to site operation, but it is believed that the heavy metal contaminated soil in the paint shed area is spent boiler scale and possibly some paint wastes, and that the tar pit in the Southeast corner of the site consists of spent solvents, waste oils and coal tars, most likely washed out during railcar/engine maintenance. It is unknown as to the disposition of the other solvent pits and the wastewater lagoons. Exact locations of all UST's likely onsite are also unknown. Laboratory documentation of contamination as well as circumstantial evidence of historical waste burial has been obtained. (Ref #'s 14,16,18,24,26,28,29,30,31).

This site has existed for 100 years or more and the majority of the site use history is speculative. In general, the site was a locomotive/diesel engine service center which probably performed engine overhauls, general maintenance, and train car repair and repainting.

The various wastewater lagoons on the South side, the stained soil on the Southeast side, and various other pits have not been sampled and are thus a major data gap. Stressed vegetation and possible spill areas are visible both on the ground and in aerial photos. Oral histories from former site employees suggest the handling of materials which created noxious fumes (one story even recalls the use of caged canaries onsite as poisonous gas detectors) and also of waste burial practices. Additional attempts to interview former site employees could further serve to address data gaps and are suggested should an SSI be performed. No documentation of any previous emergency response or remedial activity involving hazardous materials or wastes has been obtained.

3. Waste Containment/Hazardous Substance Identification:

OSDH conducted a sampling at the site on 27 February 1990. The sample objective was to determine if there are any hazardous substances onsite. The sampling conducted was generally too limited to fully characterize the site due to its areal extent. The objective however, was met as the following contaminants were detected:

TABLE

<i>Contaminant</i>	<i>Type</i>	<i>Level</i>	<i>Source</i>	
1,2 Dichlorobenzene	Sediment	400,000 ppb	Tar Pit	location #1
1,4 Dichlorobenzene	Sediment	240,000 ppb	Tar Pit	location #1
Chlorobenzene	Sediment	240,000 ppb	Tar Pit	location #1

Xylenes	Sediment	298,000 ppb	Tar Pit	location #1
Toluene	Sediment	2000 ppb	Tar Pit	location #1
2-Methyl Napthalene	Sediment	340,000 ppb	Tar Pit	location #1
Acenaphthylene	Sediment	53,000 ppb	Tar Pit	location #1
Napthalene	Sediment	91,000 ppb	Tar Pit	location #1
Acenaphthene	Sediment	34,000 ppb	Tar Pit	location #1
Fluorene	Sediment	93,000 ppb	Tar Pit	location #1
Anthracene	Sediment	3900 ppb	Tar Pit	location #1
Phenanthrene	Sediment	200,000 ppb	Tar Pit	location #1
Barium	Sediment	1990 ppm	Tar Pit	location #1
Cadmium	Sediment	18 ppm	Tar Pit	location #1
Chromium	Sediment	3895 ppm	Tar Pit	location #1
EP TOX Chromium	Sediment	26 ppb	Tar Pit	location #1
Lead	Sediment	696 ppm	Tar Pit	location #1
EP TOX Lead	Sediment	<45 ppb	Tar Pit	location #1
Copper	Sediment	604 ppm	Tar Pit	location #1
Zinc	Sediment	2100 ppm	Tar Pit	location #1
Ethylbenzene	Sediment	80,300 ppb	Tar Pit	location #1
SEC-Butylbenzene	Sediment	103,000 ppb	Tar Pit	location #1
Barium	Sediment	386 ppm	Paint Shed Area	location #6&7
Cadmium	Sediment	330 ppm	Paint Shed Area	location #6&7
Chromium	Sediment	710 ppm	Paint Shed Area	location #6&7
EP TOX Chromium	Sediment	11 ppb	Paint Shed Area	location #6&7
Lead	Sediment	2896 ppm	Paint Shed Area	Location #6&7
EP TOX Lead	Sediment	172 ppb	Paint Shed Area	Location #6&7
Copper	Sediment	629 ppm	Paint Shed Area	Location #6&7

Nickel	Sediment	47 ppm	Paint Shed Area	Location #6&7
Zinc	Sediment	1051 ppm	Paint Shed Area	Location #6&7

The QA/QC is within the parameters set forth in the Multi-site Cooperative Agreement.

Visual estimates of the lateral extent of the two sampled waste sources was made during the sampling and site reconnaissance. The vertical extent and therefore the volumes were based on the maximum measurable depth and are therefore minimum volumes. The tar pit was measured to be approximately 60ft by 50ft and is at least 3ft deep and therefore contains a minimum of 400 cubic yards of waste. The heavy metal contaminated soil is found predominantly near and in the paint shed, but was noted throughout the Southwest grounds. It is estimated that there is a minimum of 800 to 1000 cubic yards of waste soil.

The tar pit has only a small (1 ft or so) freeboard which has been breached in many places, and the pit surface is generally at the same elevation as the surrounding topography. (Ref #2,26,31).

4. Pathway Characteristics:

a. Air Pathway Characteristics -

No air monitoring or air pathway characterization was attempted during the field reconnaissance. The contaminants of concern are the same ones identified previously in this report. Particulate migration potential from the tar pit is believed to be low due to the small surface area and the high viscosity of the tar. The particulate migration potential of the heavy metal contaminated soil is of more concern and remains unknown. However, the large sizes of the aggregate waste material of what is believed to be boiler scale (and the source of the metals), suggests a low potential for particulate migration. Also, a great portion of this waste is inside the paint shed, and not generally exposed to winds.

The gas mobility of the identified contaminated soils is believed to be very low or non-existent. The gas mobility of the organics in the tar pit is believed to be low due to the age of the pit (loss of most volatiles at the surface) and the solid mat which has formed over the liquid material. However, some odor was noted during the site reconnaissance.

b. Groundwater Characteristics -

The aquifer of concern is the Terrace Deposits of the North Canadian River which consists of Pleistocene, aged sands, silts, clays, and lenticular beds of gravel of 1 to 100 feet of thickness. This unit may occur at the surface unless overlain by more recent and compositionally similar alluvial deposits. Both units (terrace deposits or alluvial deposits) have a very high hydraulic conductivity of 10^{-2} cm/sec and the water table may be encountered as shallow as 5 feet. The general groundwater flow direction at the site is toward and with the North Canadian River or North-northeast. The average annual precipitation is 31 inches and the mean annual lake evaporation is -61 inches yielding a net precipitation of -30 inches per year. (Ref #'s 1,11,12,17,28).

c. Surface Water Characteristics -

The overland migration, or runoff direction, is generally Northeast and it is believed that all runoff from the site enters Fourmile Creek. Once entering Fourmile Creek, runoff drains approximately 2 miles before entering the North Canadian River where it drains generally East-southeast to the 15 mile limit which is approximately at Council Road in Oklahoma County. No drinking water intakes were noted within the 15 mile study area, although Lake Overholser, a source of drinking water for the City of Oklahoma City, is located approximately 20 miles downstream. The upgradient drainage area is estimated from aerial photography and topographic maps to be 160 acres. The average annual stream flow for Fourmile Creek is unknown, but it is 273 cubic feet per second in the North Canadian River at El Reno. The general flood potential of the portions of the site which border Fourmile Creek is high. The tar pit and some of the contaminated soils are within the 100 year floodplain. The 2 year-24 hour rainfall is 3.9 inches. (Ref #'s 1,7,8,11,16,17,29).

d. Onsite Pathway Characteristics -

There are essentially no restrictions to the site, including to the interiors of site buildings, either via motor vehicle or on foot. Visual evidence of juveniles frequenting the site were noted during the reconnaissance (empty beverage cans, graffiti, and off-road bicycle tracks). The site is generally abandoned excepting for the sole Union Pacific track which transects the site and has considerable traffic.

The potential contaminants undetected onsite is of major concern and is subject to speculation only. The containment of the identified wastes is summarized in previous portions of this report. (Ref #'s 25,31).

5. Targets:

a. Air Targets

Due to the nature of the onsite wastes and the lack of onsite targets, the potential air targets are believed to be of low concern. Many residences are located within 1/2 to 4 miles from the site, however the prevailing wind is away from the urbanized zones.

b. Groundwater Targets

The potential groundwater targets are, at this point in the investigation, of serious concern, predominantly due to the nature of the subsurface hydrology and its high transmissivity, the contaminants detected at the site, and the high number of wells identified in the study area including a significant number of City of El Reno municipal wells.

There has been identified within 4 miles of the site; 43 commercial/industrial wells, 45 municipal/public water supply wells serving approximately 16,500 persons, 16 domestic wells serving approximately 61 persons, and 9 agricultural/irrigation wells. Most of these wells are shallow high yield wells drawing from the North Canadian River Alluvium, or Terrace Deposits of the North Canadian River.

A1	SE4 SW4 SE4 SEC28 T13N R7W
1	NE4 SW4 NW4 SEC33 T13N R7W
8	SW4 SE4 NW4 SEC33 T13N R7W

2	SW4 NE4 NW4 SEC33 T13N R7W
3	NW4 NE4 NW4 SEC33 T13N R7W
5	SE4 SW4 NE4 SEC33 T13N R7W
6	NE4 SW4 NE4 SEC33 T13N R7W
7	SW4 NW4 NE4 SEC33 T13N R7W
9	SW4 SE4 NW4 SEC33 T13N R7W
10	SW4 SE4 NW4 SEC33 T13N R7W
11	SW4 NE4 NW4 SEC33 T13N R7W
12	SE4 NW4 NW4 SEC33 T13N R7W
13	SW4 NE4 NW4 SEC33 T13N R7W
14	abandoned
15	SW4 NW4 NW4 SEC33 T13N R7W
16	abandoned
17	abandoned
18	SW4 NW4 NW4 SEC33 T13N R7W
19	SE4 NW4 NW4 SEC33 T13N R7W
20	SE4 NW4 NW4 SEC33 T13N R7W
21	NW4 NW4 NW4 SEC33 T13N R7W
22	Not on city record
23	SE4 NE4 NW4 SEC33 T13N R7W
24	SE4 SE4 NW4 SEC33 T13N R7W

(Ref #'s 11,12,13,20,27,28,36).

Distance (miles)	Population
0-.25	Believed zero
.25-.5	14780 minimum
.5-1	15230 minimum
1-2	16000 minimum
2-3	16550 minimum
3-4	17000 minimum

Source of information: Ref #1 (@ 3.8 persons per household) and 13.

c. Surface Water Targets -

No surface water intakes have been identified. Surface water recreation on Fourmile Creek and the North Canadian River within the study area is believed rare although fishing and boating cannot be ruled out. Agricultural land uses including livestock grazing on land adjacent to the site could potentially be impacted by surface water contact and result in food chain contamination.

Onsite Targets

As stated, the onsite population is believed to be zero. With the exception of unauthorized persons crossing or loitering onsite, and Union Pacific and City of El Reno personnel crossing enroute to other locations, the site is not regularly frequented. The population within the 4 mile study radius is significant and summarized below:

Distance (miles)	Population (estimated)
onsite	<u>Unknown (believed to be 0)</u>
0-1/4	<u>1600 (1600)</u>
1/4-1/2	<u>7144 (8744)</u>
1/2-1	<u>5200 (13944)</u>
1-2	<u>636 (15580)</u>
2-3	<u>670 (16250)</u>
3-4	<u>1444 (17690)</u>

All population data is roughly estimated from maps and air photos (using 3.8 persons per residence). Region VI has been unable to provide OSDH with GEMS for demographic investigations.

Source of information: (Ref #1,16,29).

Sensitive Environments

Potential site impact on identified sensitive environments centers on criteria associated with the riparian environment of the North Canadian River and includes wetlands and endangered/threatened species occurrences. The identified sensitive environments are summarized in the attachments. (See Ref #s1,21,25).

6. Other Regulatory Involvement

No other regulatory involvement by other agencies outside those regulating railroad transportation issues has been identified.

7. Conclusions and Recommendations:

Information regarding known site history has been previously discussed in this report. OSDH considers the "El Reno Roundhouse Area" a potential threat to the environment and public health of the State of Oklahoma. Removal of wastes within flood prone areas and securing the site to deny unauthorized access worthy of consideration. At minimum, the tar pit should be fenced if removal is not pending in the near future. A "high priority SSI" is recommended and Emergency Response action may be warranted due the physical characteristics of the site, the detected contaminants, and the identified targets. Should an SSI be ordered, OSDH would like to remain the lead agency. An SSI at this site should attempt to address the primary data gaps including; characterizing the wastewater lagoons, identifying groundwater contamination, and further searching for buried wastes.

Investigation of the rail yard West of the US-81 overpass is of additional concern and should be included as part of the SSI for the "El Reno Roundhouse Area", or as an independent P.A. in the near future.

REFERENCE 6

MEMORANDUM

DATE: May 20, 1991
TO: Union Pacific Rail Yard PA File
FROM: L.P. Larry Popoola, University of Oklahoma Intern
RE: Groundwater Pathway Targets

There are a significant number of private and public wells surrounding the stated site. There are 19 El Reno public wells that are generally located within one mile northeast of the yard, in the NW4 SEC33 and NE4 SEC32, T13N R07W IM. These wells serve a estimated population of 15,000. There are also four C & A Tribes' (City of Concho) public wells that are generally located within 3 - 4 miles northwest of the yard, in NW4 SEC19 T13N R07W IM. These wells currently serve an estimated population of 600. There are no public water supply serving some residences near the yard and it is assumed that the nearest well from the yard is approximately 1300 feet north of the wastewater lagoons. The total population using groundwater is described below:

<u>DISTANCE FROM YARD</u> <u>(MI)</u>	<u>ESTIMATED POPULATION SERVED:</u>	
	<u>PUBLIC WELLS</u>	<u>PRIVATE WELLS ONLY</u>
0 - 1/4	0	30
1/4 - 1/2	0	57
1/2 - 1	15,000	55
1 - 2	0	100
2 - 3	600	20
3 - 4	0	133
Total for each System	15,600	445
<u>Total Groundwater Users</u>		<u>16,045</u>

Some of the above residences served by public wells have private wells but how many has not been determined.

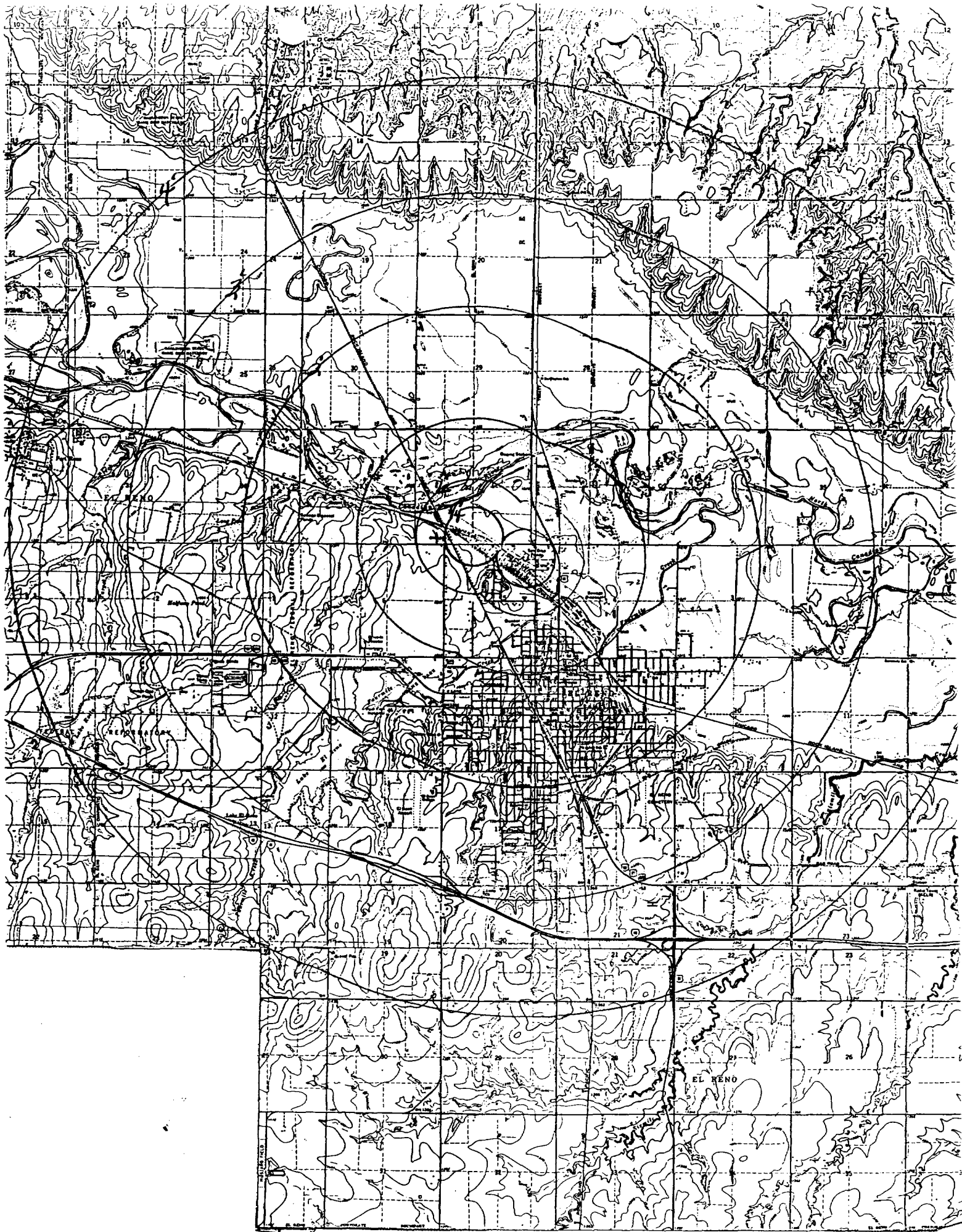
SOURCES: (attached)

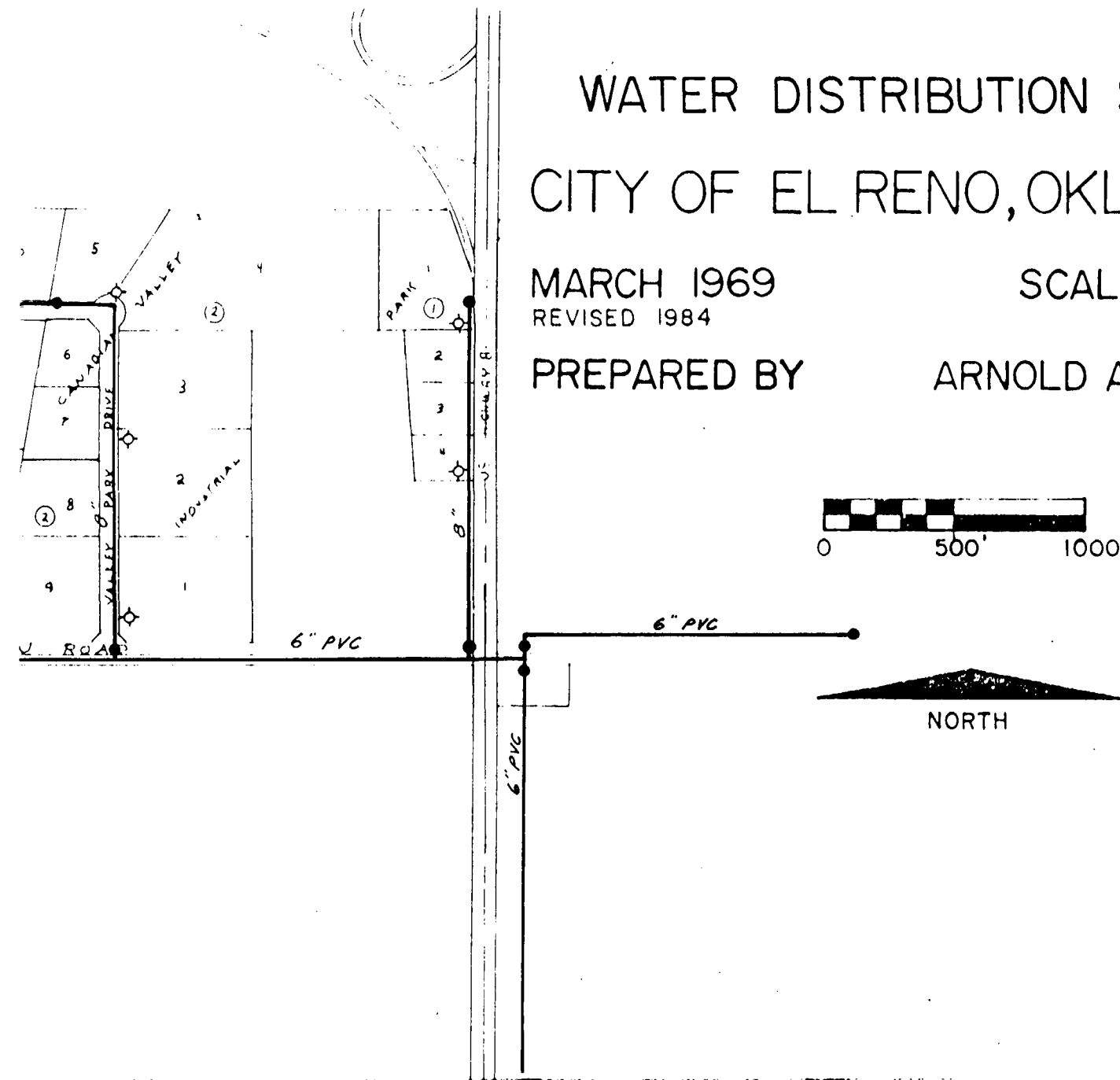
U.S.G.S. Topographic Maps. El Reno, OK 1972. Fort Reno, OK 1979. Union City, OK 1966.

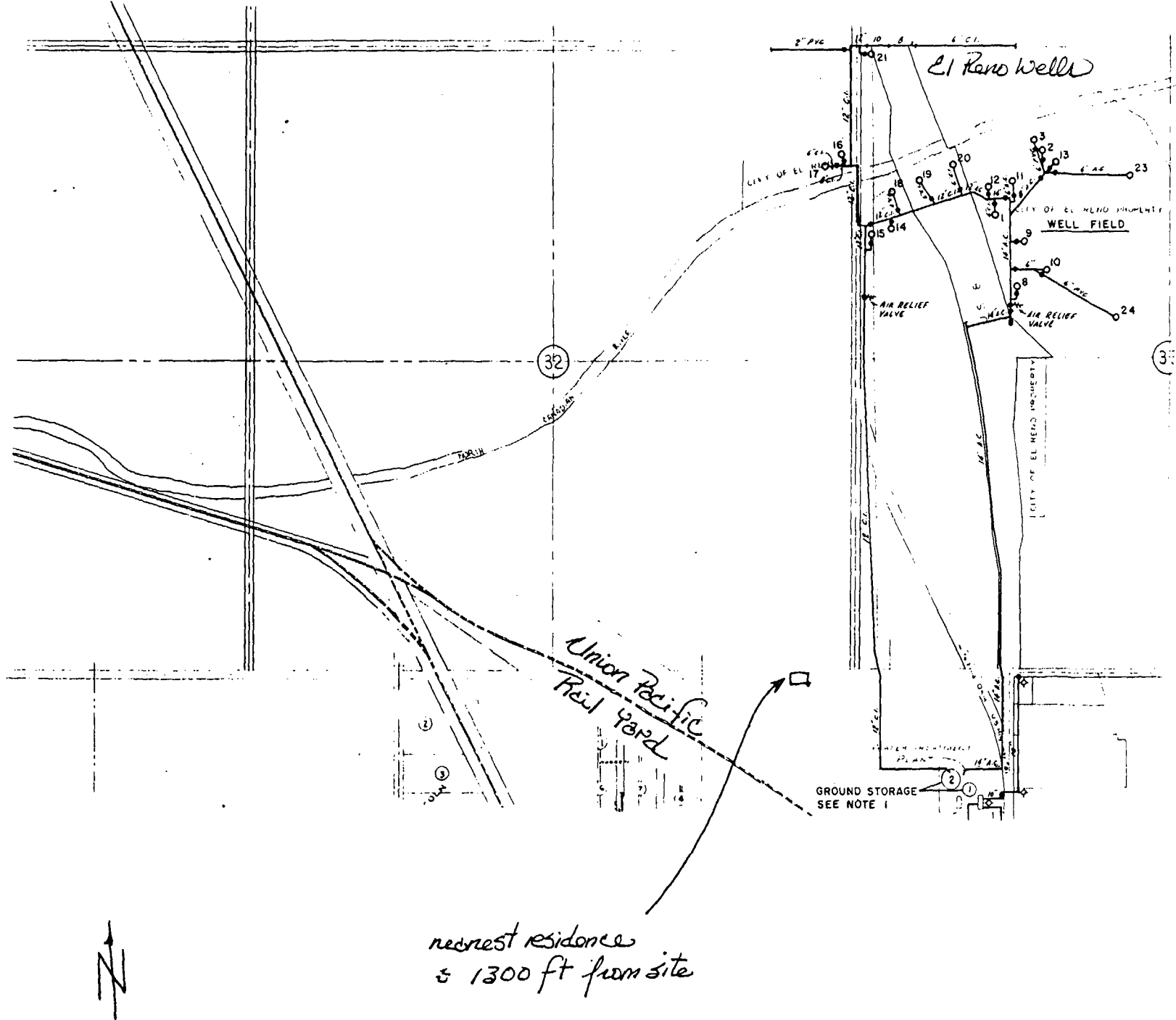
El Reno Water Distribution System Map. March, 1969. Revised 1984. Provided by the Canadian County Assessor's Office, Planning and Zoning Section.

State Environmental Laboratory Public Water Supply Database File. May 16, 1991.

Oklahoma Department of Commerce, Census Data for Canadian County. May 14, 1991







RECORD OF COMMUNICATION	Discussion	El Reno Roundhouse #2
TO: Mr. Rocky Amonette OSDH Environmental Lab	FROM: Larry Popoola Environmental Intern	DATE: May 16, 1991
		TIME: 1:20 pm

SUBJECT: Public water supply information for the El Reno Roundhouse area.

SUMMARY OF COMMUNICATION: From Mr. Amonette's database, Mr. Brooks (Senior Environmental Specialist) and I retrieved the public well information.

Well No	Location
10	SW4 NW4 NW4 S19 T13N R07W
2	NW4 SW4 NW4 S19 T13N R07W
3	NW4 SW4 NW4 S19 T13N R07W
5	NW4 SW4 NW4 S19 T13N R07W

The above C&A Tribes' public wells serve an estimated population of 600, and are within 3-4 miles from the yard. Additionally, the El Reno public wells currently served an estimated population of 15,000.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

Will include above data in the groundwater pathway target calculations.

RECORD OF COMMUNICATION	Phone Call	Union Pacific Railyard #4
TO: Union Pacific Railyard PA file	FROM: Larry Popoola Environmental Intern	DATE: May 15, 1991
		TIME: 1000
SUBJECT: 1990 Census Information for Canadian County		
SUMMARY OF COMMUNICATION: According to Mr. Mark Warren, Oklahoma Dept. of Commerce, the average persons per residence in Canadian County is 2.51.		
CONCLUSIONS, ACTION TAKEN OR REQUIRED Will use above figure along with number of occupied units from topographic maps to calculate estimated target populations for any given pathway.		

REFERENCE 7

RECORD OF COMMUNICATION	Phone Call Field Trip	Union Pacific Railyard #3
TO: Union Pacific Railyard file	FROM: Richard L. Brooks Sr. Environmental Spec.	DATE: May 17, 1991
		TIME: 0815-0845

SUBJECT: Survey to determine number of workers on and near the site

SUMMARY OF COMMUNICATION: I drove to the Canadian Co Health Department to obtain a water distribution map of the City of El Reno. I also made some local phone calls to the following people to obtain the number of workers on and near the railyard:

1. Gerald Mason, City of El Reno Public Water Works, stated that the drinking water treatment plant has about 24 employees.
2. Glenda Goslin, Energy Coatings Company or "Encoat" (the pipe yard company) stated that their facility near the railyard has 29 full-time employees.
3. Glenda Guyton, R.T. Nelson Painting service (onsite painting facility) stated that their facility has been inactive only since the end of April, 1991, and will be expected to be reopened "very soon". This facility had employed 18 full-time individuals. Since the facility is only temporarily closed, then it will be considered as "active" in the preliminary assessment with 18 employees working onsite.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

Including other sources of information already obtained from ODOT personnel and during the onsite reconnaissance, there are a total of 23 workers onsite and 57 workers adjacent or very near the yard, i.e. within 0-1/4 miles.

REFERENCE 8

RECORD OF COMMUNICATION	Field Trip	
TO: Union Pacific Rail Yard file	FROM: Richard L. Brooks Sr. Environmental Spec.	DATE: May 13, 1991
		TIME: 1330-1430

SUBJECT: Ownership information in Canadian County Assessor's Office

SUMMARY OF COMMUNICATION: It was found that the railyard located north of El Reno has been purchased by ODOT from William M. Gibbons, Trustee of Chicago, Rock Island and Pacific Railway Co., on October 21, 1982.

Additionally, Donald D. Federsen et al had purchased the 6.73 acres which includes the large above ground storage tank from Mr. Gibbons on August 23, 1982.

A map of the NW 4 of Sec 05 had also been obtained, however, there had been no information revealing the present owner of the wastewater lagoons.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

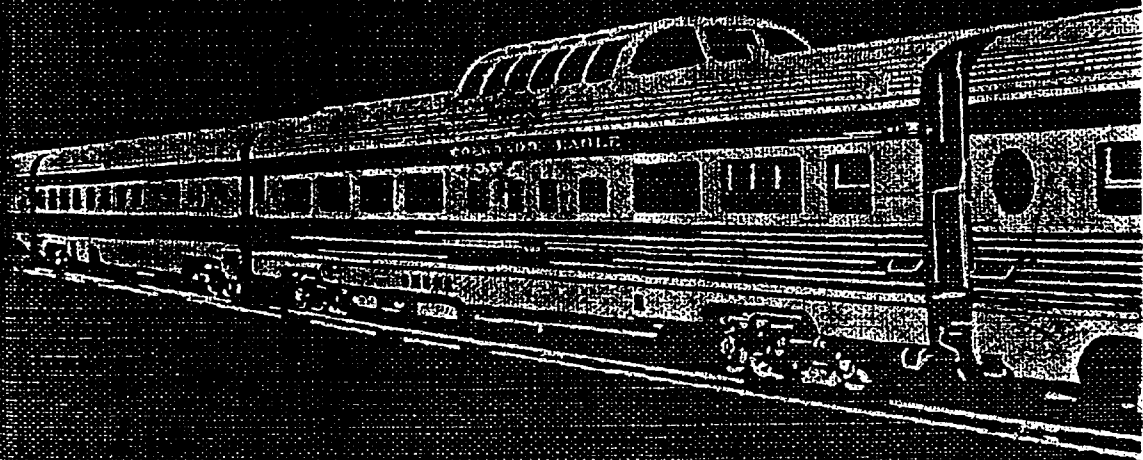
Will include the above information in the PA investigating of the railyard.

REFERENCE 9

RAILROADS OF TODAY

S. KIP FARRINGTON, Jr.

Coward-McCann

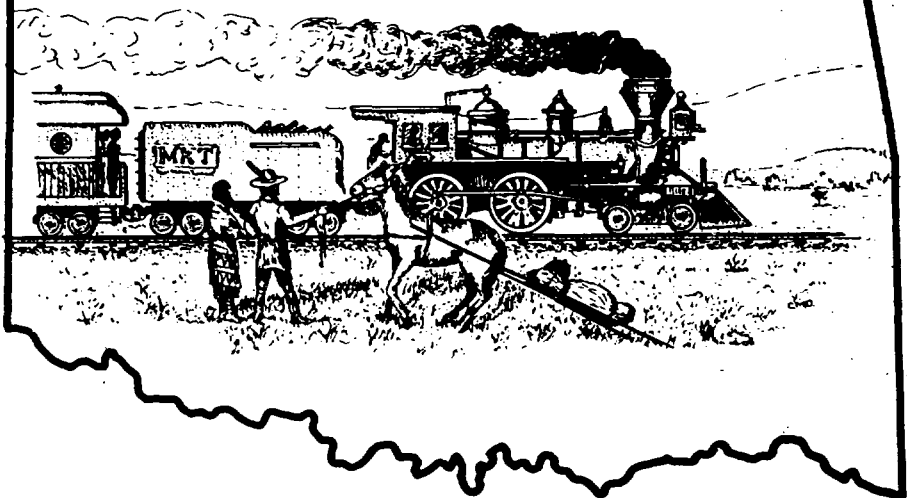
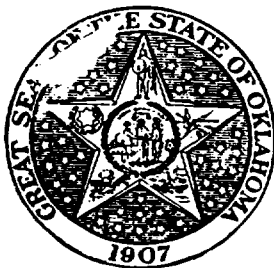


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F24612

REFERENCE 10

RAILROADS OF OKLAHOMA

JUNE 6, 1870 — JULY 1, 1974



385
OKL
1974

**STATE OF OKLAHOMA
DEPARTMENT OF HIGHWAYS
SURVEY DIVISION**

January 1, 1970
REVISED JULY 1, 1974

3. Chicago, Rock Island and Pacific Railroad Company (1st Corporation).
Incorporated under the General Laws of Iowa, June 12, 1866.
Consolidated, August 20, 1866, with the Chicago and Rock Island Rail Road Company to form (2).
4. Chicago, Kansas and Nebraska Railway Company - (2nd Corporation).
Incorporated under laws of Kansas and of Colorado through articles of consolidation dated June 13, 1888; filed in Kansas, June 29, 1888; in Colorado, July 2, 1888.
Sold under foreclosure, June 10, 1891, to (1).
5. Chicago, Kansas and Nebraska Railroad Company (1st Corporation).
Incorporated under laws of Kansas, March 9, 1886, and special Act of Congress, March 2, 1887.
Consolidated, June 13, 1888, with the Atchison, Saint Joseph and Northern to form (4).
6. Chicago, Caldwell and Southern Railway Company.
Incorporated under laws of Kansas, September 10, 1886.
Conveyed to (5), August 29, 1887.
7. The Enid and Tonkawa Railway Company.
Incorporated under laws of the Territory of Oklahoma, July 20, 1899.
Conveyed to (1), December 22, 1899.
8. The Guthrie and Kingfisher Railway Company.
Incorporated under laws of the Territory of Oklahoma, December 29, 1899.
Conveyed to (1), October 8, 1900.
9. The Enid and Anadarko Railway Company.
Incorporated under laws of the Territory of Oklahoma, March 8, 1901.
Conveyed to (1), October 21, 1903.
10. Choctaw, Oklahoma and Western Railroad Company.
See (11).
Controlled by (12) until June, 1903.
Conveyed to (1), March 24, 1904.

BEAVER, MEADE AND ENGLEWOOD RAILROAD COMPANY

Corporate History

1. Beaver, Meade and Englewood Railroad Company.
Incorporated in Oklahoma, June 12, 1912.

Charter amended, April 12, 1924, and again on June 17, 1930. On November 25, 1929, the Interstate Commerce Commission authorized the Missouri-Kansas-Texas Railroad Company to acquire control by purchase of capital stock and First Mortgage bonds, but an agreement was not reached with the owners. Further authorization, as of April 2, 1931, involving purchase of \$920,000 capital stock and \$911,000 in First Mortgage bonds for the sum of \$2,310,000 resulted in control passing into the hands of the Katy.

Construction Record in Oklahoma

Item	Year Built	Miles Built	Com- pany	Line
1	1915	6.6	(1)	Beaver to Forgan.
2	1925	19.9	(1)	Forgan to Turpin.
3	1927	18.5	(1)	Turpin to Hooker.
4	1929	20.1	(1)	Hooker to Hough.
5	1930-31	40.1	(1)	Hough to Keys.

CHICAGO, ROCK ISLAND AND PACIFIC RAILWAY COMPANY

Corporate History

1. Chicago, Rock Island and Pacific Railway Company.
Incorporated under the General Laws of Illinois and of Iowa through articles of consolidation filed in Illinois, June 2, 1880; in Iowa, June 3, 1880. Trustees appointed November 22, 1933, effective December 1, 1933.
2. Chicago, Rock Island and Pacific Railroad Company (2nd Corporation).
Incorporated under the General Laws of Illinois and of Iowa through articles of consolidation dated August 20, 1866; filed in Illinois, October 4, 1866; in Iowa, October 5, 1866.

Consolidated, June 2, 1880, with (a) Iowa Southern and Missouri Northern Railroad Company, (b) Newton and Monroe Railroad Company, (c) Atlantic and Audobon Railroad Company, (d) Atlantic Southern Railroad Company and (e) Avoca, Macedonia and Southwestern Railroad Company to form (1).

11. Choctaw, Oklahoma and Gulf Railroad Company (Minor Corporation).
Incorporated under laws of the Territory of Oklahoma, January 23, 1902.
Name changed to (10), May 5, 1902.
12. Choctaw, Oklahoma and Gulf Railroad Company (Main Corporation).
Originally incorporated under Act of Congress, approved August 24, 1894, for the purpose of acquiring the property, rights and franchises of the Choctaw Coal and Railway Company (see 13).
Control acquired in 1902 by (1) through majority ownership of capital stock.
Leased to (1), March 24, 1904, for a period of 999 years.
13. Choctaw Coal and Railway Company.
Incorporated in Minnesota, November 30, 1887.
Charter amended, January 4, 1889, and September 20, 1889.
Charter filed in Oklahoma Territory, March 6, 1891.
Receiver appointed, January 8, 1891.
Sold under foreclosure, September 8, 1894, to a reorganization committee.
Conveyed to (12), October 3, 1894.
14. Western Oklahoma Railroad Company.
Incorporated in the Territory of Oklahoma, December 11, 1900.
Conveyed to (12), May 1, 1902.
15. Choctaw Northern Railroad Company.
See (16).
Conveyed to (12), May 3, 1902.
16. Watonga and Northwestern Railroad Company.
Incorporated in the Territory of Oklahoma, May 19, 1900.
Charter amended and name changed to (15), March 22, 1901.
17. Teeumseh Railway Company.
Incorporated in the Territory of Oklahoma, August 20, 1896.
Purchased by (12), December 12, 1900.
18. Rock Island and Oklahoma Railway Company.
Incorporated in Oklahoma, October 6, 1919.
Opened for operation and operated by (1), May 28, 1920, but no lease or contract executed at that time.
Acquired by (1), December 31, 1923.

Construction Record in Oklahoma

Item	Year Built	Miles Built	Company	Line	Remarks
1	1889-90	121.1	(4)	Kansas State Line north of Medford to Minco.	
2	1892	102.5	(1)	Minco to Oklahoma-Texas State Line (one mile leased to Chicago, Rock Island and Gulf Railway, January 1, 1921).	
3	1899	26.7	(7)	North Enid to Billings.	
4	1900	16.0	(8)	Kingfisher to Cashion (Abandoned 4/1/1937; track removed 6/4/1937.)	
5	1900	97.7	(1)	Chickasha to Mangum.	
6	1901	36.0	(1)	Anadarko to Lawton.	
7	1901-02	68.4	(9)	Enid to Greenfield Jct. (Abandoned, Watonga Jct. to Greenfield Jct., March 1, 1920, 6.3 miles).	
8	1901-02	37.5	(9)	Bridgeport to Anadarko. (Abandoned 1939).	
9	1901-02	41.0	(9)	Lawton to Waurika.	
10	1902	55.7	(1)	Kansas-Oklahoma State Line to Oklahoma-Texas State Line at Texhoma.	
11	1902-03	38.5	(10)	Guthrie to Chandler. (Abandoned, June 1, 1924).	
12	1911	0.9	(1)	At Guthrie, spur to depot. (Abandoned, June 1, 1924).	
13	1903	24.8	(1)	Chickasha to Lindsay. (Abandoned, Sep. 19, 1942).	
14	1903	21.0	(1)	Lawton to Chattanooga. (Abandoned 0.7 mi. at Chattanooga, Jan. 1, 1921). (Remainder abandoned in 1942).	
15	1903	2.4	(1)	El Reno passenger cut-off just east of El Reno, including wye.	
16	1906	6.5	(1)	North Coalgate to Lehigh. (Ceased operation, Nov. 1, 1918.) (Abandoned 4.9 miles, Coalgate to Lehigh, in 1923, but continued operating 1.6 miles, North Coalgate to Coalgate, until 1938 when it was also abandoned).	
17	1910	1.6	(1)	Belt Jct. to Pacific Jct. at El Reno, including north leg of wye. (Freight line).	
18	1920	15.0	(18)	Chattanooga to Grandfield. (Requisitioned by WPB in 1942).	
19	1926	3.7	(1)	Homestead to Okeene Jct.	
20	1926	14.9	(1)	Billings to Tonkawa.	
21	1927	11.4	(1)	Tonkawa to Ponca City.	
22	1927	1.8	(1)	At Ponca City.	
23	1929	41.9	(1)	Kansas-Oklahoma State Line to Oklahoma-Texas State Line at Hitchland.	

CHOCTAW, OKLAHOMA AND GULF RAILROAD COMPANY

(Leased to C. R. I. & P. Ry. Co.)

Item	Year Built	Miles Built	Company	Line	Remarks
1	1889-90	67.4	(13)	Wister to McAlester. (20.0 miles of original line between Wilburton and Haileyville has been abandoned due to relocation of main line in 1902).	
2	1890-92	30.7	(13)	Oklahoma City to Fort Reno. (Relocation of main line through Oklahoma City, effective December 1, 1930, caused net increase of 0.4 mile).	

REFERENCE 11

Joan K. Leavitt, M.D.
Commissioner

Board of Health
Walter Scott Mason, III
President
Ernest D. Martin, R.Ph.
Vice President
Wallace Byrd, M.D.
Secretary-Treasurer

John B. Carmichael, D.D.S.
Jodie L. Edge, M.D.
Dan H. Fieker, D.O.
Burdge F. Green, M.D.
Linda M. Johnson, M.D.
Lee W. Paden

OKLAHOMA STATE
DEPARTMENT OF HEALTH

P.O. BOX 53551
1000 NE TENTH
OKLAHOMA CITY, OK 73152



AN EQUAL OPPORTUNITY EMPLOYER

June 7, 1990

Certified Mail

Glenda Guyton, Business Mgr.
R.T. Nelson Painting Service, Inc.
P.O. Box 788
El Reno, Oklahoma 73036

Dear Ms. Guyton:

On May 31, 1990, the Oklahoma State Department of Health (OSDH) conducted a compliance evaluation inspection of R. T. Nelson Painting Service, Inc., to determine compliance with the Oklahoma Controlled Industrial Waste Disposal Act (OCIWDA) and the Rules and Regulations for Industrial Waste Management (Rule or Rules). This notice of violation is a result of the following areas of noncompliance.

1. R. T. Nelson Painting Service, Inc. has not made a determination that wastes generated at the facility are hazardous. Failure to determine if any generated waste is hazardous is a violation of Rule 210 and Title 40 of the Code of Federal Regulations (40 CFR), Section 262.11.
2. R. T. Nelson Painting Service, Inc. has not notified the U.S. Environmental Protection Agency (EPA) as a generator of hazardous waste. Treatment, storage, or disposal of hazardous waste without a U.S. EPA number is a violation of Rule 210 and 40 CFR 262.12.
3. R. T. Nelson Painting Service, Inc. has disposed of listed hazardous waste paint sludge in a dumpster for disposal in a municipal landfill which is not permitted to accept controlled industrial waste. Disposal of hazardous waste in an unpermitted facility is a violation of Rule 210 and 40 CFR 270.1(b) and (c).
4. R. T. Nelson Painting Service, Inc. uses methyl ethyl ketone (MEK) and xylene as solvents in the paint removal process. After use, this solvent is stored in an open container and allowed to evaporate. MEK and xylene are listed wastes with the waste codes F005 and F003, respectively. [The definition of "disposal" in 40 CFR 260.10 means discharge. . . such that solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air. . .] This method of disposal constitutes a violation of Rule 210 and 40 CFR 270.1(b) and (c).
5. At the time of inspection, one open container of solvent was observed in the work area. No other containers of stored waste were observed. Storage of hazardous waste in open containers, and without the accumulation date and proper hazardous waste labels is in violation of Rule 210 and 40 CFR 262.34(d)(2) and 262.34(d)(4), respectively.

FILE COPY

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R.T. Nelson Painting Service, Inc.
Narrative

On May 31, 1990 an inspection of the R.T. Nelson Painting Service (R.T. Nelson) facility in El Reno was conducted (Chris Varga, of the Industrial Waste Division, accompanied by Matt Biddle of OSDH, and Pat Stewart, Canadian County Health Department). The facility contact is Glenda Guyton, who is the business manager for R.T. Nelson. Ms. Guyton indicated that the facility has had recent inspections by OSHA, the Oklahoma State Department of Labor, insurance companies and the Defense Contractor Administration Services out of Dallas, and she is working to bring the facility in compliance with all requirements.

R.T. Nelson is a government contractor which resurfaces airfield matting for the Marines. This operation has been on-going for about two years. The facility receives airfield matting which is made of aluminum and uses a steel grit dust to blast the paint residues and surface coatings from the old mattings. The blasting process generates approximately 10 - 15 cubic yards of spent material per day. A sample of this material was collected by OSDH to be sampled for metals, but is expected to test non-hazardous. This material is currently going to the landfill in Laidlaw dumpsters. The cleaned mattings are then repainted. The facility completes approximately seventy bundles of twelve mats per bundle each week.

R.T. Nelson uses xylene and methyl ethyl ketone as solvents to clean the paint guns and pots. When questioned about the disposition of this waste, the area worker indicated that the solvents were placed in an open 6 gallon barrel and when the paint sludges settle to the bottom, the liquids are poured back and reused. The sludges are reportedly collected in a drum and then disposed in the dumpster. The rest of the liquid reportedly "evaporates". Facility records, as reported by Ms. Guyton, indicate that R.T. Nelson receives approximately 110 gallons of xylene each month and an average of 36 gallons per month of methyl ethyl ketone [220 gallons every two months of xylene and 220 gallons every six months of MEK]. Ms. Guyton indicated that these solvents weigh 6.7 lb/gallon for a total usage of about 978 lbs/month. Assuming a significant amount of this becomes waste, and including the paint sludges generated in the process, the facility will likely be regulated as a Small Quantity Generator (SQG) of hazardous waste. There are no other known wastes generated at this facility. This facility has no knowledge of the requirements for hazardous waste management. The small six gallon container was the only waste storage drum observed.

Some of the hazardous waste requirements were briefly discussed with Ms. Guyton. Specifically, she was informed that the solvents used were listed hazardous wastes included in 40 CFR 261, and that evaporation is not an acceptable disposal option. It was suggested she may want to contact one of the solvent reclaiming/recycling companies for disposal options. It was mentioned that R.T. Nelson would need to notify the U.S. EPA as a SQG, and indicated that OSDH would send her the notification forms and additional information concerning the SQG requirements.

REFERENCE 12

RECORD OF COMMUNICATION	Discussion	Union Pacific Railyard
TO: Union Pacific Railyard PA file	FROM: Richard L. Brooks ²¹¹⁶ Sr. Environmental Spec.	DATE: May 17, 1991
		TIME: 1300

SUBJECT: Painting facility on stated site.

SUMMARY OF COMMUNICATION: According to Damon Yost, R.S., currently employed in the enforcement section of the Solid Waste Management Service/OSDH, and formerly employed with the Canadian County Health Department, he had performed a percolation test for the R.T. Nelson Painting Services, Inc. at the stated site. As he dug into the subsurface, north of the facility, he encountered an odorous, oily sludge which was buried under several inches of soil. Therefore, he continued the test further east in suitable soils.

Damon also stated that the facility's solid waste was being disposed of in the Canadian County Solid Waste disposal Authority Landfill #3509005.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

Will use above information in PA.

REFERENCE 13

Joan K. Leavitt, M.D.
Commissioner

Board of Health

Walter Scott Mason, III
President
Ernest D. Martin, R.Ph.
Vice President
Wallace Byrd, M.D.
Secretary-Treasurer

John B. Carmichael, D.D.S.
Jodie L. Edge, M.D.
Dan H. Fieker, D.O.
Burdge F. Green, M.D.
Linda M. Johnson, M.D.
Lee W. Paden

**OKLAHOMA STATE
DEPARTMENT OF HEALTH**

**P.O. BOX 53551
1000 NE TENTH
OKLAHOMA CITY, OK 73152**

AN EQUAL OPPORTUNITY EMPLOYER



FILE COPY

September 10, 1990

CERTIFIED MAIL

Glenda Guyton
Business Manager
R. T. Nelson Painting Service, Inc.
P.O. Box 788
El Reno, Oklahoma 73036

Dear Ms. Guyton:

The Oklahoma State Department of Health (OSDH) has received your reply dated August 28, 1990, to the Notice of Violation issued by OSDH on June 7, 1990. Based on this response, OSDH accepts your conclusion that R.T. Nelson Painting Service, Inc. is currently a conditionally exempt small quantity generator of hazardous waste. However, at the time of the inspection, one of your employees stated that the used solvents are placed in an open container and when the paint solids settle out, the liquid portion is decanted. The settled solids reportedly went into the dumpster. OSDH understands that the used solvents are now being held in closed containers and then are being added to the paint as thinner in the process. This practice is encouraged, however OSDH emphasizes that any paint solid residues which have been in contact with listed solvents and which cannot be returned to the process are hazardous wastes. If you generate exempt quantities (less than 220 lbs of hazardous waste in any calendar month), your facility is not required to notify as a hazardous waste generator and is not subject to RCRA regulations (except 40 CFR 261.5, a copy of which is enclosed). However, no quantity of hazardous waste is allowed to be disposed of in a municipal landfill in accordance with State law.

OSDH is enclosing a copy of our test results on your spent metal blasting material. Although the metal concentrations are high, this material did not exhibit EP Toxicity and is not considered a hazardous waste under current regulations. This material may, however, exhibit a characteristic of toxicity for metals under the Toxicity Characteristic Leaching Procedure (TCLP), a new analysis procedure which will soon replace the EP Toxicity test. The Toxicity Characteristic Rule was published by the Environmental Protection Agency on March 29, 1990. Generators have six months from that date to comply with the new Federal regulations. Because of the

9-11
CH

R.T. Nelson
September 10, 1990
Page 2

high total metal content in your blasting waste, R.T. Nelson Painting Service, Inc. should consider TCLP analyses to determine that your facility does not generate a newly regulated TC hazardous waste. Information concerning the TC Rule is enclosed.

Sincerely,

A handwritten signature in dark ink, appearing to read "D. D. Wingfield", with a long horizontal stroke extending to the right.

Damon D. Wingfield, Chief
Hazardous Waste Management Service

Enclosures

cc: Jimmy Givens, Staff Attorney
Ann Zimmerman, EPA Region VI
Pat Stewart, Canadian County Health Dept.
Bill Warden, District Sanitarian
Fenton Rood, Solid Waste Management Service

REFERENCE 14

185056 SAMP 00000
05/31/90 TIME 15:00
06/01/90
08/21/90

CRV

CHRIS VARGA
WASTE MANAGEMENT SERVICE
OSDH ROOM 803
OKLAHOMA CITY OK 73152

FILE COPY

OKLAHOMA STATE DEPARTMENT OF HEALTH
STATE SANITARY AND ENVIRONMENTAL LABORATORY SERVICE
REPORT OF ANALYSIS

File Copy

GENERAL PROJECTS

CONCENTRATION IN SAMPLE				CONCENTRATION IN SAMPLE			
PARAMETER	VALUE	UNITS	PARAMETER	VALUE	UNITS	PARAMETER	VALUE
ANTIMONY IN SED	<	140.00	MG/KG	ARSENIC IN SEDIMENT	<	24.00	MG/KG
BARIUM IN SEDIMENT		18250.00	MG/KG	EP TOX BARIUM		3475	UG/L
BERYLLIUM IN SEDIMENT	<	4.00	MG/KG	CADMIUM IN SEDIMENT		8.10	MG/KG
EP TOX CHROMIUM		39	UG/L	CHROMIUM IN SEDIMENT		1699.00	MG/KG
COPPER IN SEDIMENT		436.00	MG/KG	LEAD IN SEDIMENT		3411.00	MG/KG
EP TOX LEAD		95	UG/L	MERCURY IN SEDIMENT		3.75	MG/KG
NICKEL IN SEDIMENT		540.00	MG/KG	SELENIUM IN SEDIMENT		31.00	MG/KG
SILVER IN SEDIMENT	<	2.80	MG/KG	THALLIUM IN SEDIMENT	<	80.00	MG/KG
ZINC IN SEDIMENT		2479.00	MG/KG				

RECEIVED

AUG 24 1990

Solid Waste Service

REMARK CODE EXPLANATIONS

< LESS THAN DETECTION LIMIT

CLIENT NELSON PAINTING
PROJECT WASTE MGMT SER (GENERAL PROJECT
LOCATION CANADIAN

CITY EL RENO

LEGAL
SEC T P M

SAMPLES
COMMENTS STEEL BLASTING MATERIAL

Cliff Petree
GARY Petree
ENVIRONMENTAL LABORATORY SERVICE

REFERENCE 15

FACT SHEET- TOXICITY CHARACTERISTIC RULE

The Environmental Protection Agency (EPA) enacted the Toxicity Characteristic (TC) rule on March 29, 1990. This rule expands the hazardous waste universe through redefinition of the characteristic of toxicity. This rule has been incorporated into the Oklahoma Rules & Regulations for Industrial Waste Management, effective September 25, 1990. [Rule 211]

Who is affected?

Any business that generates a waste which may contain the constituents listed below must determine whether the chemicals are present in waste sample extracts in levels specified in the new regulations. If the constituents are present above these levels, the waste is a hazardous waste. These "TC wastes" cannot be disposed in untreated form in Oklahoma municipal landfills. The TC rule provides for the Toxicity Characteristic Leaching Procedure (TCLP), a new analytical procedure which replaces the EP toxicity test for making a hazardous waste determination. Results from the TCLP are more reproducible than results from the old EP leach test, and the new test is easier to run.

CODE	NEW CONSTITUENTS	LEVELS (MG/L)	CODE	OLD EP CONSTITUENTS**	LEVELS (MG/L)
D018	BENZENE	0.5	D004	ARSENIC	5.0
D019	CARBON TETRACHLORIDE	0.5	D005	BARIUM	100.0
D020	CHLORDANE	0.03	D006	CADMIUM	1.0
D021	CHLOROBENZENE	100.0	D007	CHROMIUM	5.0
D022	CHLOROFORM	6.0	D008	LEAD	5.0
D023	o-CRESOL	200.0	D009	MERCURY	0.2
D024	m-CRESOL	200.0	D010	SELENIUM	1.0
D025	p-CRESOL	200.0	D011	SILVER	5.0
D026	CRESOL	200.0	D012	ENDRIN	0.02
D027	1,4- DICHLOROBENZENE	7.5	D013	LINDANE	0.4
D028	1,2- DICHLOROETHANE	0.5	D014	METHOXYCHLOR	10.0
D029	1,1- DICHLOROETHYLENE	0.7	D015	TOXAPHENE	0.5
D030	2,4- DINITROTOLUENE	0.13	D016	2,4-D	10.0
D031	HEPTACHLOR	.008	D017	2,4,5-TP	1.0
D032	HEXACHLOROBENZENE	0.13			
D033	HEXACHLORO-1,3-BUTADIENE	0.5			
D034	HEXACHLOROETHANE	3.0			
D035	METHYL ETHYL KETONE	200.0			
D036	NITROBENZENE	2.0			
D037	PENTACHLOROPHENOL	100.0			
D038	PYRIDINE	5.0			
D039	TETRACHLOROETHYLENE	0.7			
D040	TRICHLOROETHYLENE	0.5			
D041	2,4,5- TRICHLOROPHENOL	400.0			
D042	2,4,6- TRICHLOROPHENOL	2.0			
D043	VINYL CHLORIDE	0.2			

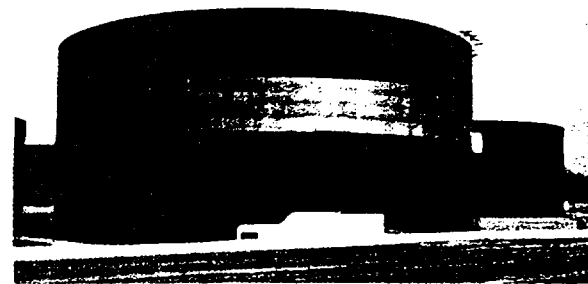
* Waste codes and Regulatory levels for metals and pesticides remain unchanged, however, because the TCLP is a more aggressive leaching protocol than the old EP, some waste streams that formerly did not meet the EP toxicity characteristic will become hazardous under these new rules.

REFERENCE 16

FILE COPY

R. T. Nelson
Painting Service, Inc.

EL RENO PLANT



A SPECIALIZED SERVICE FOR THE OIL, PETROCHEMICAL & MARINE INDUSTRIES
PORTABLE STEEL SHOT BLAST CLEANING

REPLY TO:
6225 ALUMA VALLEY DRIVE
OKLAHOMA CITY, OKLA. 73121

June 12, 1990

RECEIVED

JUL 2 1990

405/478-2630
FAX 405/478-5327

Industrial Waste Div.

CHRIS R. VARGA
Senior Environmental Specialist
1000 Northeast Tenth Street
Oklahoma City, Oklahoma 73152

RE: Receipt of Your Letter
Dated: 7 JUNE 1990

Dear Mr. Varga:

In receipt of your letter dated 7 JUNE 1990, concerning your compliance evaluation inspection to determine our compliance with the Oklahoma Controlled Industrial Waste Disposal Act (OCIWDA) and the Rules and Regulations for Industrial Waste Management (Rule or Rules), I would like to request a 30 to 60 day extension.

Our vacation for the entire plant is scheduled for the 29 JUNE 1990 through 16 JULY 1990. Also I would like the time to be able to read all the data that you have provided as well as solicit bids from persons or companys to assist us in making an evaluation of our materials used on this job. This would be in response to violation number (1) listed in your letter referenced above.

We have been evaluated by other agencies/auditors (see Attachment I), and we were not made aware of any of the areas you mentioned in your letter that we were in noncompliance. I am in the process of collecting test results of audits previously performed that might be helpful in this evaluation.

If you should have any further questions or feel that there would be a problem with an extension please contact Mr. Michael R. Nelson, President at 405/478-2630 or Ms. Glenda Guyton at 405/262-1714.

Sincerely,
Glenda Guyton
GLENDA GUYTON
Office Manager

cc: M. Nelson, President WORLDWIDE SERVICE

Oil Refineries — Chemical Plants — Pipe Lines — Tank Farms — and Marine Facilities

RECEIVED

JUL 2 1990

ATTACHMENT I

Industrial Waste Div.

(List of Agencies/Auditors that have Evaluated/Inspected)

- 1) STATE OF OKLAHOMA
Department of Labor (OSHA)
Diane Bozarth,
Industrial Hygienist and
Brenda Nails,
Consultant
Oklahoma City, Oklahoma
- 2) STATE INSURANCE FUND
Don Elliot
Safety/Loss Prevention Representatives
Oklahoma City, Oklahoma
- 3) DEPARTMENT OF DEFENSE
Defense Contract Administration
Harry Mihalyi,
Safety Specialist
Services Region, Dallas
- 4) DEPARTMENT OF DEFENSE
Defense Contract Administration
Will Cardwell,
Quality Control Inspector

Other references would be our Engineers on this Contract

REFERENCE 17

OKLAHOMA GEOLOGICAL SURVEY

CHARLES J. MANKIN, *Director*



Hydrologic Atlas 4

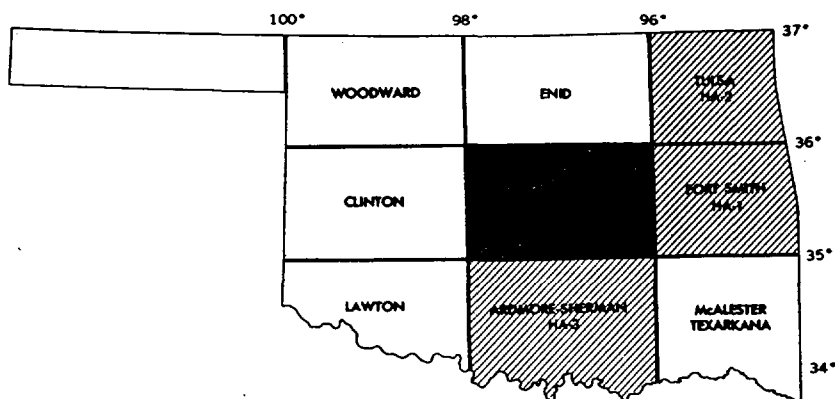
**RECONNAISSANCE OF THE WATER RESOURCES OF THE
OKLAHOMA CITY QUADRANGLE, CENTRAL OKLAHOMA**

By

ROY H. BINGHAM AND ROBERT L. MOORE
U.S. Geological Survey

Prepared in cooperation with
UNITED STATES GEOLOGICAL SURVEY

Scale 1:250,000



The University of Oklahoma
Norman
1975

Second printing, 1983

REFERENCE 18

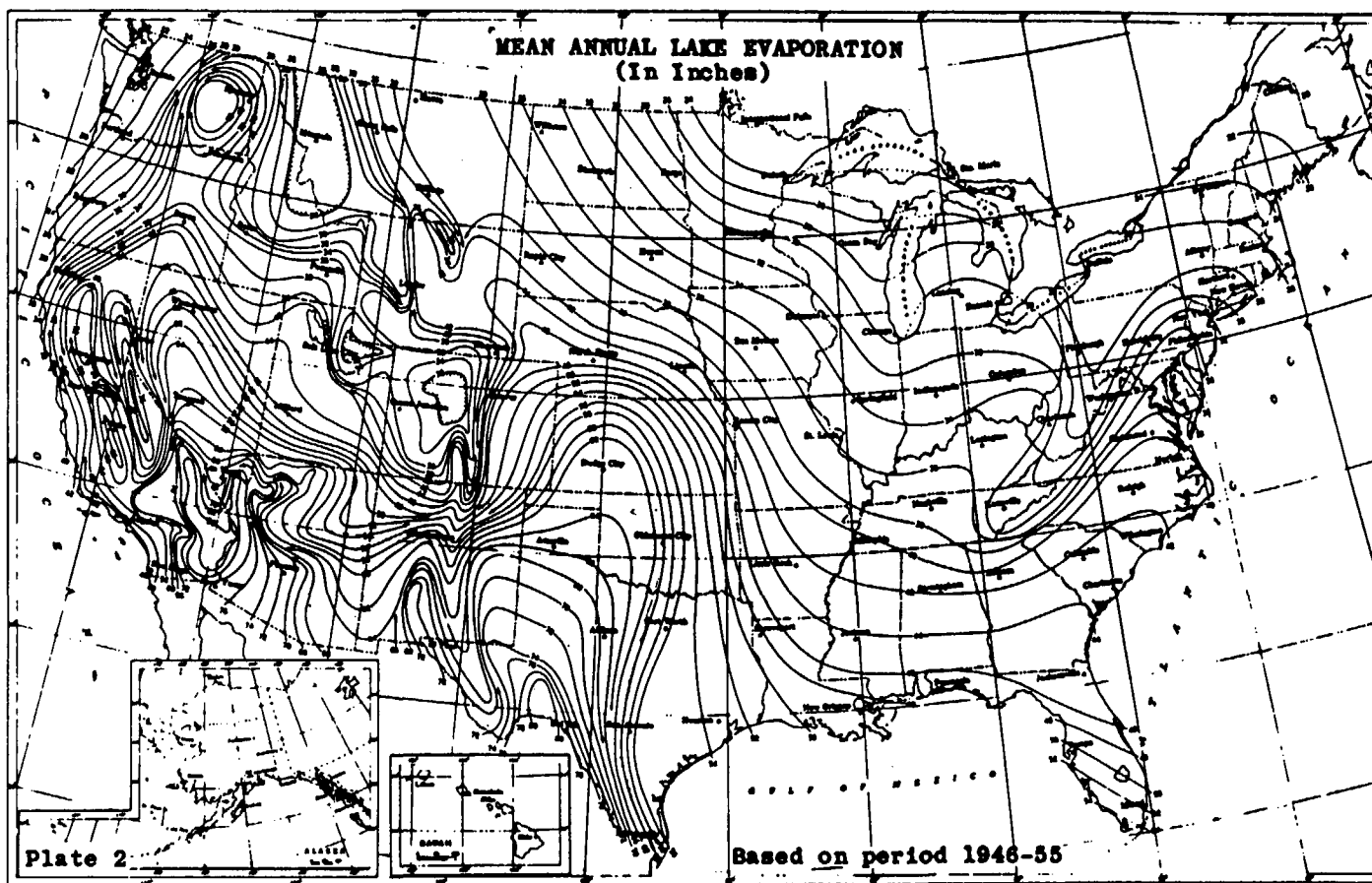
Uncontrolled Hazardous Waste Site Ranking System

A Users Manual (HW-10)

Originally Published in
the July 16, 1982, *Federal Register*

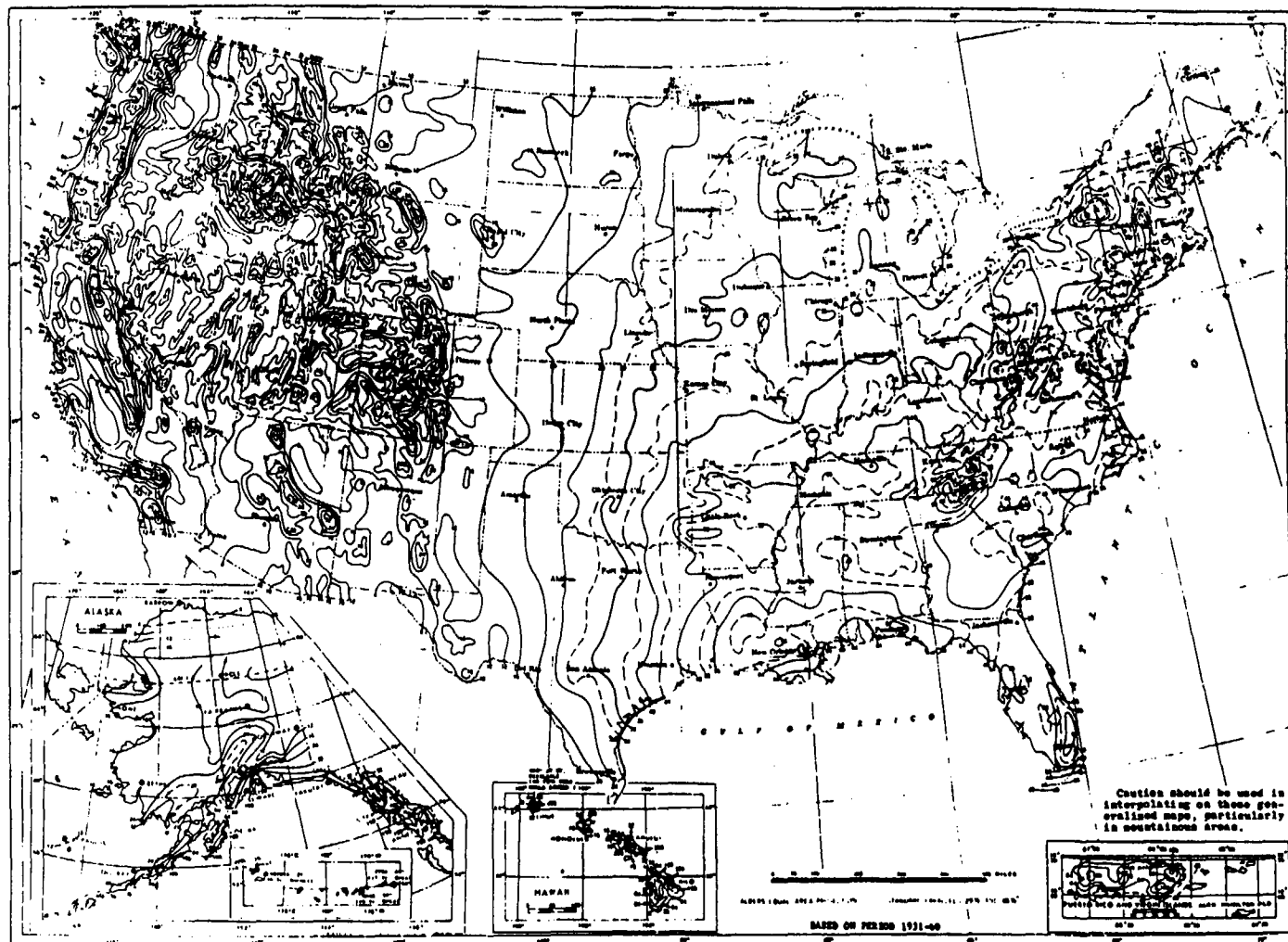
United States
Environmental Protection
Agency

1984



Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Ashville, N.C., 1979.

FIGURE 4
MEAN ANNUAL LAKE EVAPORATION
(IN INCHES)



Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Asheville, N.C., 1979.

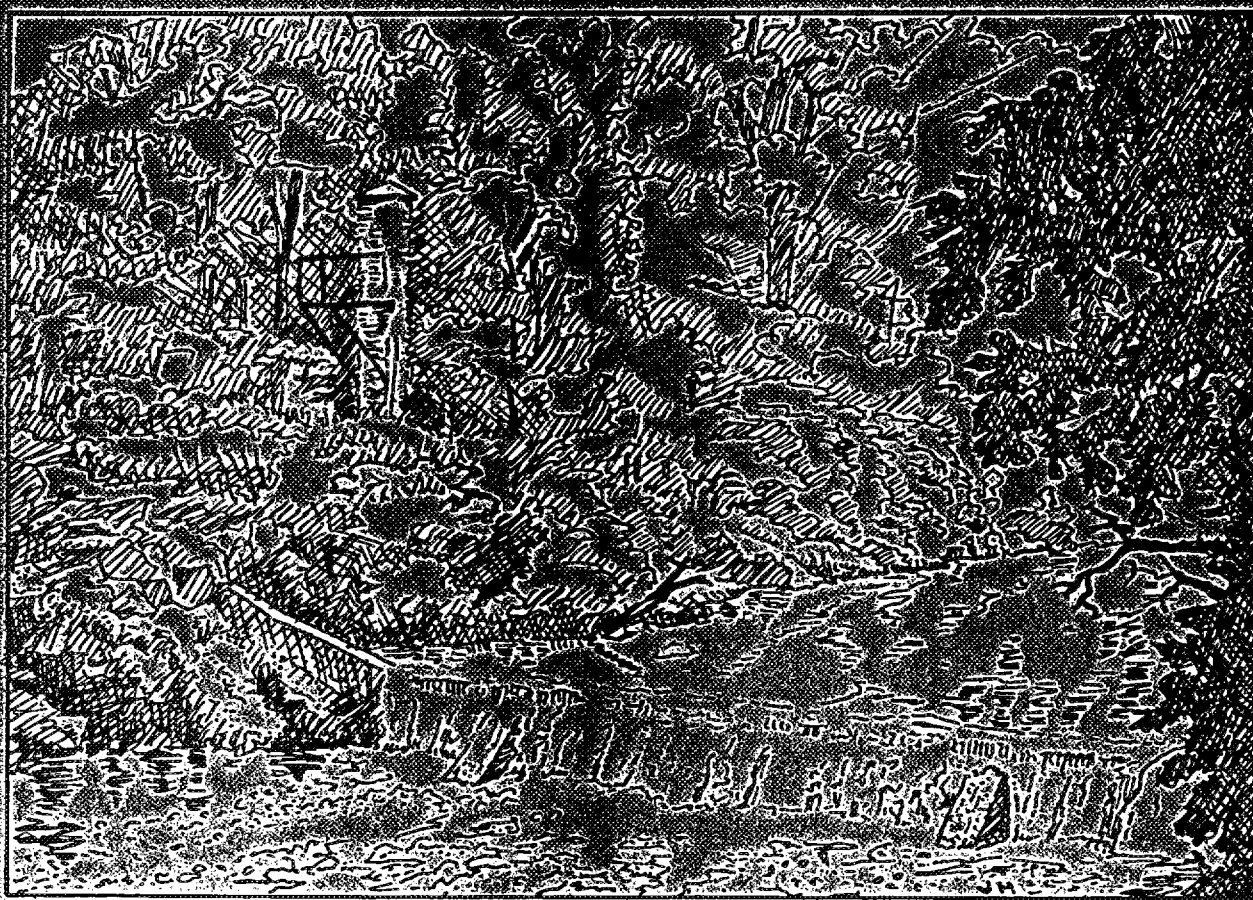
FIGURE 5
NORMAL ANNUAL TOTAL PRECIPITATION (INCHES)

REFERENCE 21

STATISTICAL SUMMARIES OF STREAMFLOW RECORDS IN OKLAHOMA AND PARTS OF ARKANSAS, KANSAS, MISSOURI, AND TEXAS THROUGH 1934

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 37-4205



Old gage, Council Creek at Stillwater, Oklahoma

Prepared in cooperation with the
OKLAHOMA WATER RESOURCES BOARD



ARKANSAS RIVER BASIN

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK

LOCATION.--Lat 35°33'44", long 97°57'32", on east line of sec.32, T.13 N., R.7 W., Canadian County, Hydrologic Unit 11100301, near left bank on downstream side of pier of bridge on old U.S. Highway 81, 2.0 mi north of courthouse in El Reno, 2.2 mi downstream from Target Creek, and at mile 307.4.

DRAINAGE AREA.--13,042 mi² of which 4,899 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1902 to April 1908, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected at site 1.0 mi upstream March 1914 to March 1934 and at present site thereafter are contained in reports of National Weather Service. Published as Canadian River (North Fork) near El Reno 1902-4.

REMARKS.--Some regulation by Fort Supply Lake for period May 1942 to April 1948 and regulated by Canton Lake thereafter.

STREAMFLOW UNREGULATED

MONTHLY AND ANNUAL MEAN DISCHARGES 1903-07, 1938-47

MONTH	MAXIMUM (CFS)	MINIMUM (CFS)	MEAN (CFS)	STAN- DARD DEVI- ATION (CFS)	COEFFI- CIENT OF VARI- ATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	2460	0.00	357	666	1.9	10.9
NOVEMBER	815	0.00	155	248	1.6	4.8
DECEMBER	642	0.00	130	181	1.4	4.0
JANUARY	541	0.00	121	142	1.2	3.7
FEBRUARY	484	0.00	131	122	0.93	4.0
MARCH	480	0.00	184	157	0.85	5.6
APRIL	1450	24	417	392	0.94	12.7
MAY	1970	21	650	631	0.97	19.9
JUNE	1650	80	524	394	0.75	16.0
JULY	1420	18	332	376	1.1	10.2
AUGUST	599	0.14	144	178	1.2	4.4
SEPTEMBER	420	0.00	125	158	1.3	3.8
ANNUAL	631	62	273	163	0.59	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1904-07, 1939-47

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND NON-EXCEEDANCE PROBABILITY, IN PERCENT			
	2 50%	5 20%	10 10%	20 5%
1	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00
14	0.32	0.00	0.00	0.00
30	2.6	0.00	0.00	0.00
60	11	0.00	0.00	0.00
90	19	1.3	0.10	0.00
120	35	2.8	0.19	0.00
183	49	8.5	1.9	0.00

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1903-07, 1938-47

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON 15 YEARS OF RECORD

DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL IN YEARS, AND EXCEEDANCE PROBABILITY, IN PERCENT					
2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
4770	7200	9050	11700	13800	16200

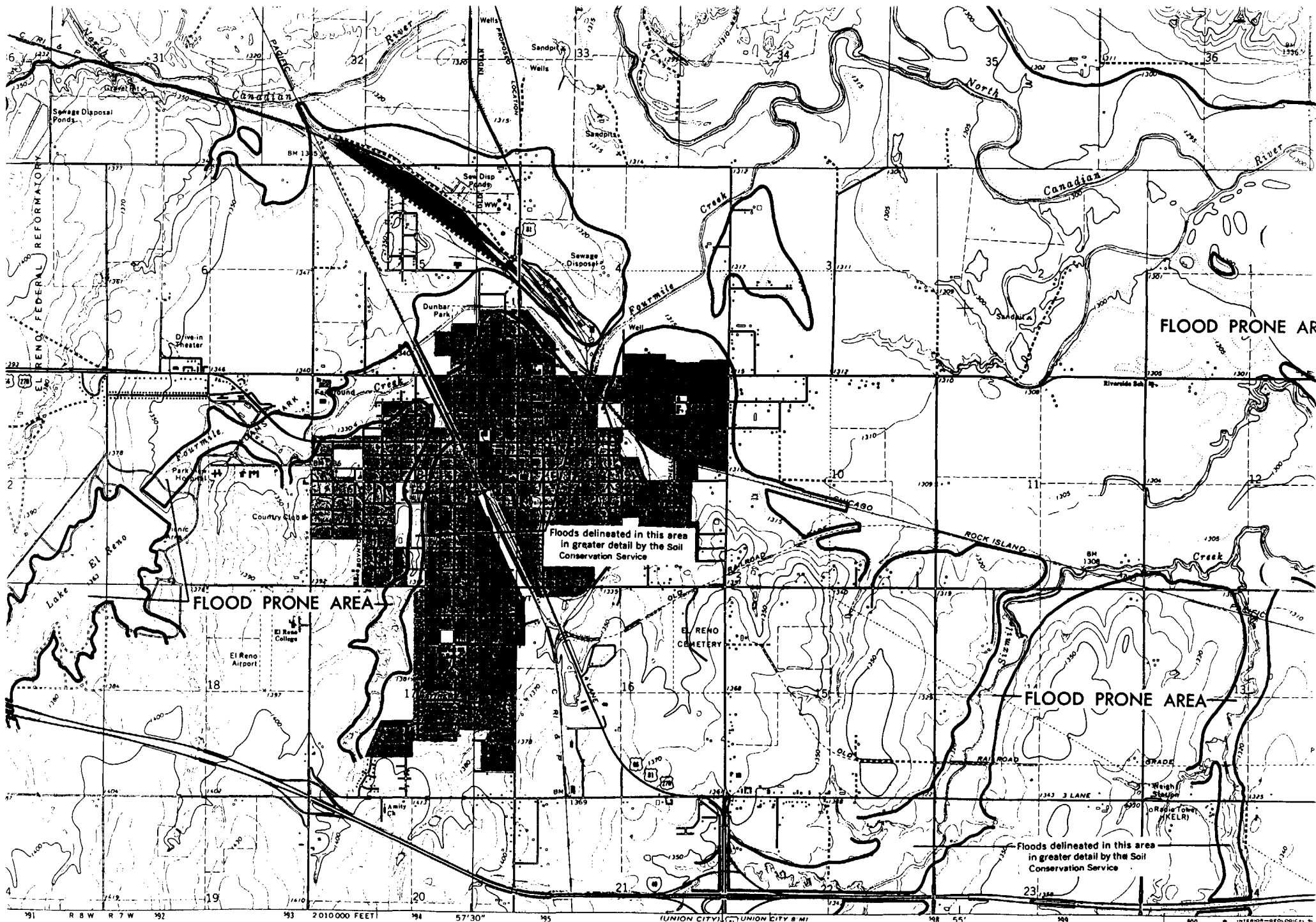
WATER RESOURCES COUNCIL WEIGHTED SKEW = 0.299

PERIOD (CON- SECUTIVE DAYS)	DISCHARGE, IN CFS, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
1	3670	6230	8290	11300	13900	16800
3	2560	4710	6460	9010	11200	13500
7	1880	3550	4960	7120	9000	11100
15	1330	2450	3380	4770	5965	7300
30	1020	1770	2330	3060	3630	4210
60	715	1220	1560	1960	2240	2510
90	620	1000	1210	1420	1550	1650

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1903-07, 1938-47

DISCHARGE, IN CFS, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME																
1%	5%	10%	15%	20%	30%	40%	50%	60%	70%	80%	90%	95%	98%	99%	99.5%	99.9%
3220	1050	625	465	359	234	149	104	61	32	9.8	0.08	0.04	0.02	0.01	0.00	0.00

REFERENCE 22



FLOOD PRONE AREA

FLOOD PRONE AREA

FLOOD PRONE AREA

Floods delineated in this area
in greater detail by the Soil
Conservation Service

Floods delineated in this area
in greater detail by the Soil
Conservation Service

UNION CITY, MINN.

REFERENCE 23

MEMORANDUM

DATE: May 20, 1991

TO: Union Pacific Railyard PA File

FROM: LP Larry Popoola
Oklahoma University Intern

SUBJECT: Surface Water Pathway

From the PPE probable point of entry, the three sources of water intakes 15 miles downstream are on:

1. N 1/2 of Section 35 serving a 400 acre irrigation area approximately 6 1/4 miles downstream.
2. SW 1/2 of Section 35 serving a 100 acre feed lot approximately 6 miles downstream.
3. SE 1/4 of Section 36 serving a 600 acre feed lot approximately 9 miles downstream.

SOURCES (attached)

Oklahoma Water Resources Board, Stream Water Division. Record of Communication. May 15, 1991.

RECORD OF COMMUNICATION	Phone Call	Union Pacific Railyard
TO: Union Pacific Railyard PA file	FROM: Larry Popoola Oklahoma University Intern	DATE: May 15, 1991
		TIME: 2:30 pm

SUBJECT: Surface water intakes 15 miles downstream, of the North Canadian River from the yard's PPE.

SUMMARY OF COMMUNICATION: I contacted Mr. Gene Doussett, OWRB, Stream Water Division in regards to the recent information on water intakes 15 miles downstream SW 1/4 of Section 32.

His files indicate irrigation intakes on the N 1/2 of Section 35 serving a 400 acre area, a 600 acre feed lot on the SE 1/4 of Sec 36, and a 100 acre feed lot on the SW 1/2 of Section 35.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

Will use the above information to infer there are no drinking surface water targets.

REFERENCE 24

D

OKLAHOMA FEDERAL LISTED, PROPOSED,
AND CANDIDATE (Cat. 1 & 2) T/E SPECIES
June 20, 1990

COUNTY	SPECIES	CLASSIFICATION
Adair	Gray bat	Endangered
	Ozark big-eared bat	Endangered
	Peregrine falcon	Endangered
	Ozark chinquapin	Category 1 Candidate
	(<i>Castanea pumila</i> var. <i>ozarkensis</i>)	
	Royal catchfly (<i>Silene regia</i>)	Category 2 Candidate
	Bat Cave Isopod	Category 2 Candidate
	Ozark Cave Amphipod	Category 2 Candidate
	Migrant loggerhead shrike	Category 2 Candidate
	Eastern small-footed bat	Category 2 Candidate
Alfalfa	Peregrine falcon	Endangered
	Bald eagle	Endangered
	Interior least tern	Endangered
	Piping plover	Threatened
	Whooping crane C/H	Endangered
	Arkansas River shiner	Category 1 Candidate
	Arkansas River speckled chub	Category 2 Candidate
	Texas horned lizard	Category 2 Candidate
	White-faced ibis	Category 2 Candidate
	Ferruginous hawk	Category 2 Candidate
	Long-billed curlew	Category 2 Candidate
	Mountain plover	Category 2 Candidate
	Western Snowy plover	Category 2 Candidate
	Swift fox	Category 2 Candidate
Atoka	Bald eagle	Endangered
	Piping plover	Threatened
	Cumberland sand grass	
	(<i>Calamovilfa arcuata</i>)	Category 2 Candidate
	Small-headed pipewort	
	(<i>Eriocaulon kornickianum</i>)	Category 2 Candidate
	Alligator snapping turtle	Category 2 Candidate
Beaver	Migrant loggerhead shrike	Category 2 Candidate
	Bald eagle	Endangered
	Interior least tern	Endangered
	Whooping crane	Endangered
	Peregrine falcon	Endangered
	Arkansas River shiner	Category 1 Candidate
	Arkansas River speckled chub	Category 2 Candidate
	Arkansas darter	Category 2 Candidate
	Texas horned lizard	Category 2 Candidate
	White-faced ibis	Category 2 Candidate
	Ferruginous hawk	Category 2 Candidate
	Long-billed curlew	Category 2 Candidate
	Mountain plover	Category 2 Candidate
	Western Snowy plover	Category 2 Candidate
	Swift fox	Category 2 Candidate
Beckham	Whooping crane	Endangered
	Interior least tern	Endangered
	Texas horned lizard	Category 2 Candidate
	White-faced ibis	Category 2 Candidate
	Ferruginous hawk	Category 2 Candidate
	Long-billed curlew	Category 2 Candidate
Blaine	Western Snowy plover	Category 2 Candidate
	Bald eagle	Endangered
	Black-capped vireo	Endangered
	Interior least tern	Endangered
	Piping plover	Threatened
	Whooping crane	Endangered
	Arkansas River shiner	Category 1 Candidate
	Arkansas River speckled chub	Category 2 Candidate

	Texas horned lizard	Category 2 Candidate
	White-faced ibis	Category 2 Candidate
	Ferruginous hawk	Category 2 Candidate
	Long-billed curlew	Category 2 Candidate
	Western Snowy plover	Category 2 Candidate
Bryan	Bald eagle	Endangered
	Interior least tern	Endangered
	Piping plover	Threatened
	Peregrine falcon	Endangered
	Paddlefish	Category 2 Candidate
	Blue sucker	Category 2 Candidate
	Arkansas meadow-rue (<i>Thalictrum arkansanum</i>)	Category 2 Candidate
	Alligator snapping turtle	Category 2 Candidate
	Texas horned lizard	Category 2 Candidate
	Long-billed curlew	Category 2 Candidate
	Migrant loggerhead shrike	Category 2 Candidate
Caddo	Black-capped vireo	Endangered
	Piping plover	Threatened
	Whooping crane	Endangered
	Bald eagle	Endangered
	Arkansas River shiner	Category 1 Candidate
	Arkansas River speckled chub	Category 2 Candidate
	Texas horned lizard	Category 2 Candidate
	White-faced ibis	Category 2 Candidate
	Ferruginous hawk	Category 2 Candidate
	Long-billed curlew	Category 2 Candidate
	Western Snowy plover	Category 2 Candidate
Canadian	Black-capped vireo	Endangered
	Interior least tern	Endangered
	Piping plover	Threatened
	Whooping crane	Endangered
	Bald eagle	Endangered
	Peregrine falcon	Endangered
	Prairie mole cricket	Proposed Threatened
	Arkansas River shiner	Category 1 Candidate
	Arkansas River speckled chub	Category 2 Candidate
	White-faced ibis	Category 2 Candidate
	Ferruginous hawk	Category 2 Candidate
	Long-billed curlew	Category 2 Candidate
	Western Snowy plover	Category 2 Candidate
Carter	Piping plover	Threatened
	Whooping crane	Endangered
	Bald eagle	Endangered
	Texas horned lizard	Category 2 Candidate
	Western Snowy plover	Category 2 Candidate
	Migrant loggerhead shrike	Category 2 Candidate
Cherokee	Gray bat	Endangered
	Ozark big-eared bat	Endangered
	Peregrine falcon	Endangered
	Bald eagle	Endangered
	Piping plover	Threatened
	American burying beetle	Endangered
	Ozark chinquapin (<i>Castanea pumila</i> var. <i>ozarkensis</i>)	Category 1 Candidate
	Ozark spiderwort (<i>Tradescantia ozarkana</i>)	Category 2 Candidate
	Lake cress (<i>Armoracia aquatica</i>)	Category 2 Candidate
	Royal catchfly (<i>Silene regia</i>)	Category 2 Candidate
	Paddlefish	Category 2 Candidate
	Blue sucker	Category 2 Candidate
	Alligator snapping turtle	Category 2 Candidate
	Migrant loggerhead shrike	Category 2 Candidate
	Eastern small-footed bat	Category 2 Candidate

REFERENCE 25

RECORD OF COMMUNICATION	Phone Call	Union Pacific Railyard
TO: Union Pacific Railyard PA file	FROM: ^{LP} Larry Papoola Environmental Intern	DATE: May 16, 1991
		TIME: 11:15 am

SUBJECT: Within 4 miles and 15 miles downstream of the railyard

SUMMARY OF COMMUNICATION: As indicated by the files of Ian Butler, of the Oklahoma Biological Survey, there are no endangered/threatened (including candidates) habitats documented for the area of interest.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

Will take the above information into consideration for surface water target calculations.

REFERENCE 26

MEMORANDUM

DATE: May 15, 1991

TO: Union Pacific Railyard PA File

FROM: L.P. Larry Popoola, University of Oklahoma Intern

SUBJECT: Air Pathway Targets

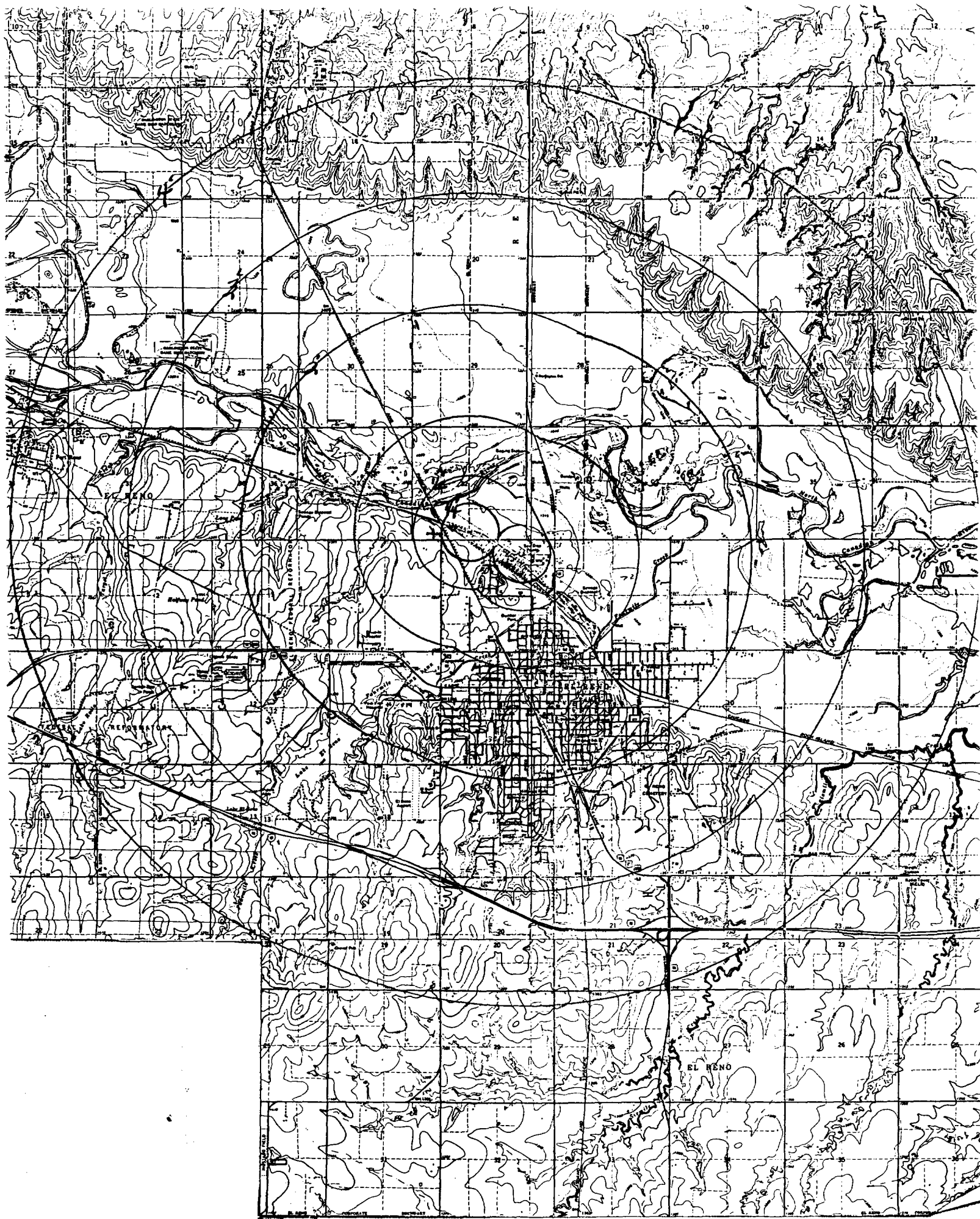
The closest residence to the paint facility is located approximately 1,980 ft to the west of the facility. The population within the 4 mile radius from the yard is summarized below.

Distance from source (miles)	Estimated Population
0-1/4	70
1/4-1/2	1520
1/2-1	3750
1-2	7600
2-3	1530
3-4	800
TOTAL	15,300

SOURCES: (attached)

U.S.G.S. Topographic Maps. El Reno, OK 1972. Fort Reno, OK 1979. Union city, OK 1966.

Oklahoma Department of Commerce, Census Data for Canadian County-May 14, 1991.



RECORD OF COMMUNICATION	Phone Call	Union Pacific Railyard #4
TO: Union Pacific Railyard PA file	FROM: Larry Popoola Environmental Intern	DATE: May 15, 1991
		TIME: 1000

SUBJECT: 1990 Census Information for Canadian County

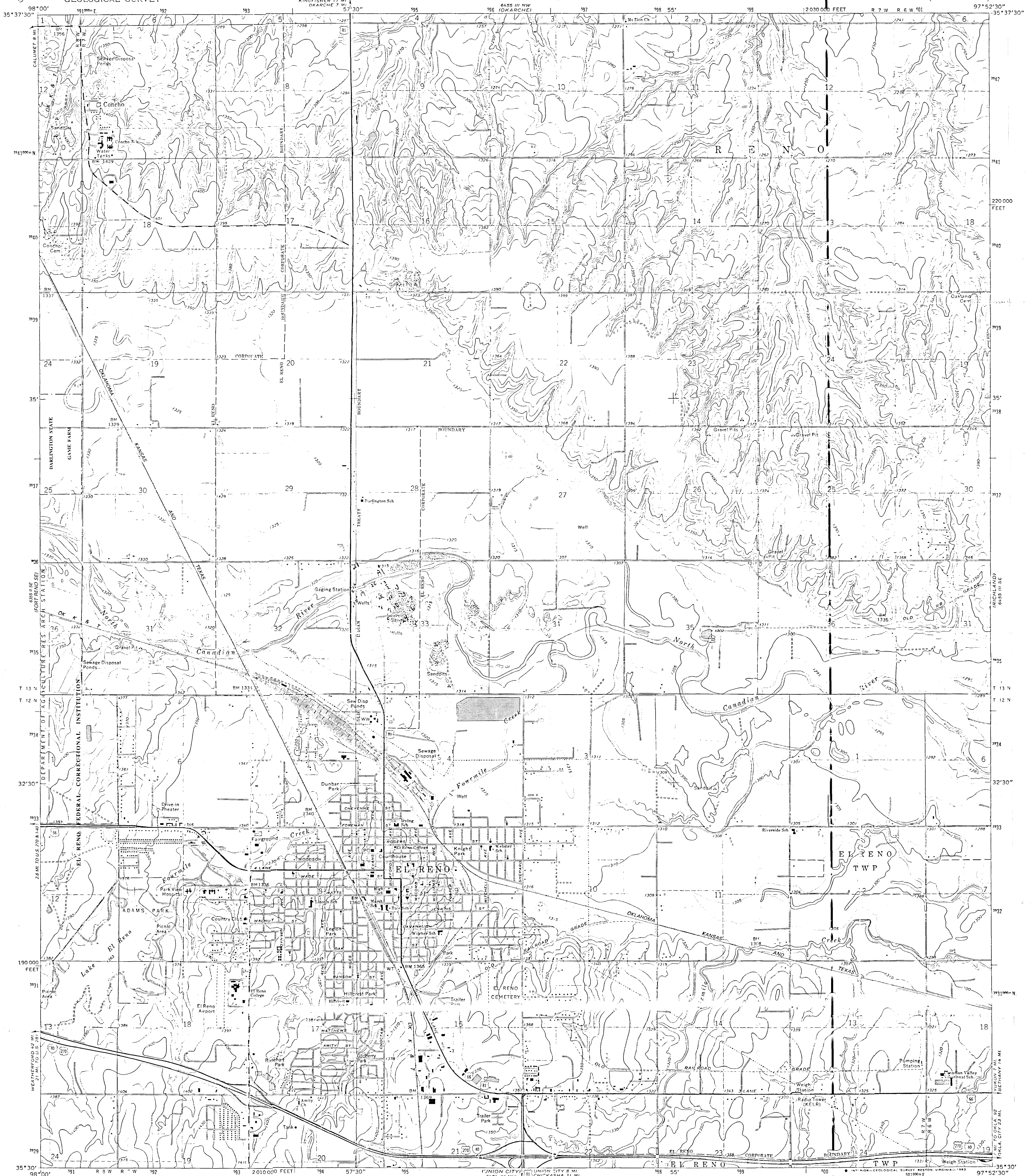
SUMMARY OF COMMUNICATION: According to Mr. Mark Warren, Oklahoma Dept. of Commerce, the average persons per residence in Canadian County is 2.51.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

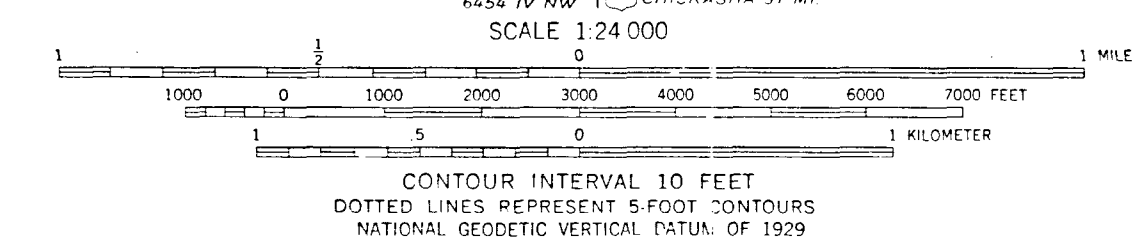
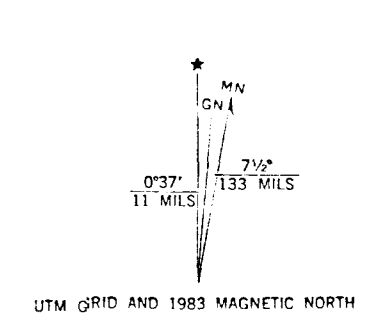
Will use above figure along with number of occupied units from topographic maps to calculate estimated target populations for any given pathway.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EL RENO QUADRANGLE
OKLAHOMA-CANADIAN CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

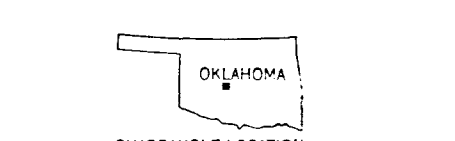


Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography by photogrammetric methods from aerial
photographs taken 1970. Field checked 1972
Projection and 10,000-foot grid ticks: Oklahoma coordinate
system, north zone (Lambert conformal conic)
1000-meter Universal Transverse Mercator grid ticks,
zone 14, shown in blue. 1927 North American datum
Red tint indicates area in which only landmark buildings are shown
To place on the predicted North American Datum 1983,
move the projection lines 3 meters south and
29 meters east as shown by dashed corner ticks
There may be private inholdings within the boundaries of
the National or State reservations shown on this map



THIS MAP COMPLETES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
AND OKLAHOMA GEOLOGICAL SURVEY, NORMAN, OKLAHOMA 73069
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

GAYLORD STICKLE CO. & ASSOCIATES, INC.
4470 WORLD AVENUE, SUITE 200
Houston, TX 77055-2000



Revisions shown in purple compiled from aerial
photographs taken 1981 and other sources
This information not field checked. Map edited 1983
Purple tint indicates extension of urban area

ROAD CLASSIFICATION
Primary highway, hard surface ————
Secondary highway, hard surface ————
Unimproved road ————
Interstate Route ————
U.S. Route ————
State Route ————

EL RENO, OKLA.
N3530-W9752.5/7.5
1972
PHOTOREPRODUCED 1983
DMA 645 III SW-SERIES 5883